

Appendix A

Biographies of Advisors

Dr. Scott R. Abella, Assistant Research Professor, School of Environmental and Public Affairs, University of Nevada Las Vegas. Dr. Abella's research focus is applied ecology for supporting land management and conservation, in the areas of plant ecology, restoration ecology, fire ecology, and scientific literature synthesis. He regularly works directly with resource managers on projects, enabling mutually beneficial science-management partnerships and clear paths for scientific information transfer. Dr. Abella has published over 50 scientific papers and has nine years of applied research experience in the Southwest. His work is regularly sought by media outlets such as the Las Vegas Sun, and he is invited to 4-6 conferences annually as a featured speaker on topics such as ecological restoration, fire management, and exotic species in southwestern deserts. He teaches UNLV courses in restoration ecology, undergraduate and graduate research, ecology, and environmental science.

Dr. Cameron Barrows, Assistant Research Ecologist, University of California, Riverside's Center for Conservation Biology. Dr. Barrows' research addresses many aspects of Conservation Biology and includes 1) Community ecology of arid environments, 2) Climate change sensitivity of desert flora and fauna, 3) The development of ecological criteria for evaluating multiple species conservation efforts, and 4) the impacts of invasive species on the biodiversity of Southwestern landscapes. He served on the Scientific Advisory Committee for Biological Monitoring component of that plan. Recent publications include: Persistence and local extinctions of an endangered lizard on isolated habitat patches, (Barrows, C. W. and M. F. Allen. *Endangered Species Research* 3:61-68), Using occurrence records to model historic distributions and estimate habitat losses for two psammophilic lizards, (Barrows C. W., K. L. Preston, J. T. Rotenberry, M. F. Allen. *Biological Conservation* 141:1885-1893), Effects of an invasive plant on a desert sand dune landscape (Barrows, C. W., E. B. Allen, M. L. Brooks, and M. F. Allen. *Biological Invasions* 11:673-686), Conserving Species in Fragmented Habitats: Population Dynamics of the Flat-tailed Horned Lizard, *Phrynosoma mcallii* (Barrows, C. W. and M. F. Allen. *Southwestern Naturalist* 54: 307-316, Patterns of occurrence of reptiles across a sand dune landscape (Barrows, C. W. and M. F. Allen. *Journal of Arid Environments* 74:186-192), and Assessing sensitivity to climate change and drought variability of a sand dune endemic lizard (Barrows, C. W., J. T. Rotenberry, and M. F. Allen. *Biological Conservation* 143:731-743).

Dr. Kristin H. Berry, Research Wildlife Biologist, U.S. Geological Survey, Riverside, California. Dr. Berry is a wildlife biologist and arid lands ecologist with expertise in plant and animal communities in the Mojave and western Sonoran deserts, the desert tortoise and other vertebrates. She has degrees from Stanford University (B.A., 1964), University of California at Los Angeles (M.A., 1968), and University of California, Berkeley (Ph.D., 1972), and has been an employee of the Department of the Interior since 1974. Dr. Berry has published over 50 scientific papers on desert topics and edited a volume of scientific papers on the Mojave Desert,

which was published in 2006. Her field research covers a wide variety of topics, including ecology, behavior, and impacts of translocation on tortoises; health and diseases of desert tortoises; recovery of annual and perennial vegetation after disturbance; anthropogenic impacts in the desert and the relationship to population declines of the tortoise; and invasive annual plants. Berry conducts interdisciplinary research with research veterinary pathologists and microbiologists, geneticists, botanists, and geologists. She provides data and recommendations to wildlife biologists and managers in federal and state agencies and contributes to land-use plans.

Dr. Todd C. Esque, Research Ecologist, Western Ecological Research Center, US Geological Survey, Henderson Nevada. Dr. Esque's research focuses on disturbance ecology in arid systems. His academic training was at Prescott College Arizona (B.A), Colorado State University (M. Sc. – Biology), and University of Nevada, Reno (Ecology, Evolution and Conservation Biology). Active research includes fire ecology, community and landscape ecology, herpetology and conservation biology. Dr. Esque serves on academic committees at universities and participates in science advisory committees for a variety of applied research initiatives. Recent publications include: (1) Esque, T.C., J.A. Young, and C.R. Tracy. 2010. Short-term effects of experimental fires on a Mojave Desert seed bank. *Journal of Arid Environments* 74(10):1302-1308; (2) Esque, T.C., K.E. Nussear, K.K. Drake, A.D. Walde, K.H. Berry, R.C. Averill-Murray, A.P. Woodman, W.I. Boarman, P.A. Medica, J. Mack J.S. Heaton. In Press. Effects of Human Population Density, Resource Variability, and Subsidized Predators on Desert Tortoise Populations in the Mojave Desert. *Endangered Species Research*; (3) Esque, T.C., Esque, Jason P. Kaye, Sara E. Eckert, Lesley A. DeFalco, and C. Richard Tracy. 2010. Short-term soil inorganic N pulse after experimental fire alters invasive and native annual plant production in a Mojave Desert shrubland. *Oecologia* DOI:n10.1007/s00442-010-1617-1; (4) DeFalco, L.A., T.C. Esque, S.J. Scoles and J. Rodgers. 2010. Desert wildfire and severe drought diminish survivorship of the long-lived Joshua tree (*Yucca brevifolia*; Agavaceae). *American Journal of Botany* 97:243-350.

Kimball L. Garrett, Ornithology Collections Manager, Natural History Museum of Los Angeles County, Los Angeles, California. Garrett is an ornithologist with over 40 years of field experience in southern California and has worked widely throughout the southern California deserts. He obtained his undergraduate degree in Zoology from UC Berkeley and did graduate work in ornithology at UCLA. Since 1982 he has managed the extensive bird collections of the Natural History Museum of Los Angeles County. He co-authored *Birds of Southern California: Status and Distribution*, a standard work for the region published in 1981, along with the *Peterson Field Guide to Warblers of North America* (1997). He has co-edited the Southern California region for the avian distributional journal *North American Birds* since 2000. Garrett's research involves various aspects of bird distribution and seasonal status in southwestern North America, along with the ecology and population trends of non-native bird species in the region.

Dr. Christine A. Howell, Senior Conservation Scientist, PRBO Conservation Science, Petaluma, California. She has degrees from the University of California Berkeley (B.A. Biology 1991) and the University of Missouri Columbia (PhD Ecology 1999). Her doctoral research focused on avian demography and life history evolution. In 2000 she received a

National Science Foundation Post-doctoral Fellowship in Biological Informatics to pursue research in collaboration with Missouri Botanical Garden and the International Center for Tropical Ecology at the University of Missouri Saint Louis. Her NSF research focused on the development and use of spatially explicit models and statistics as practical tools in coarse-grain conservation studies. In 2004 she joined the staff of PRBO (formerly known as the Point Reyes Bird Observatory) as a Senior Conservation Scientist. Her research at PRBO has included projected climate change impacts on California's avifauna, wildlife responses to restoration, conservation of riparian obligate bird species, and riparian restoration design. She is currently editing a book on climate change adaptation case studies for California.

Robin Kobaly, Executive Director, The SummerTree Institute, Morongo Valley, California.

Kobaly is a botanist and plant ecologist with expertise in plant communities in the Mojave and Sonoran deserts. She has degrees from the University of California at Riverside (B.A. Biology 1974 and M.A. Plant Ecology 1977), and 33 years' experience in plant ecology, wildlife biology, land use management, aerial photo interpretation, and natural history interpretation. She served as a botanist for the U.S. Bureau of Land Management for 21 years, working on regional conservation plans, habitat management plans, management plans for Areas of Critical Environmental Concern, and environmental impact statements. Kobaly has interpreted aerial photography to determine plant species composition, cover, biomass, and productivity desert-wide in California, and integrated satellite imagery, aerial photography, and ground data to help produce the vegetation map for the California Desert Conservation Area. Kobaly has worked with NASA's Jet Propulsion Laboratory to train scientists from NASA and BLM in new techniques for vegetation/soils mapping. She has conducted inventories and monitored impacts to rare, threatened, and endangered plant species, and resolved conflicts between resource protection and human activities within "Watchable Wildlife Areas", wildlife preserves, and Areas of Critical Environmental Concern.

Dr. Reed Noss, Professor, Department of Biology, University of Central Florida, Orlando, Florida. Dr. Noss, an internationally known conservation biologist with special expertise in landscape ecology, land use planning, ecosystem management, and reserve design. He recently started a new conservation biology graduate program at the University of Central Florida. He has a particular interest in translating the principles of conservation biology to policy and management, and was first author of the book *The Science of Conservation Planning*. Dr. Noss has served as a member and as lead scientist on numerous scientific advisory committees, including those for several other NCCP/HCPs. He has served both as President of the Society for Conservation Biology and as Editor-in-Chief of its journal, *Conservation Biology*.

Dr. Richard Redak, Professor of Entomology and Department Chair, College of Natural and Agricultural Sciences, UC Riverside. Dr. Redak's research is directed toward understanding the interactions between insect herbivores and their host plants and involves understanding the impacts that both host-plant and insect herbivore have upon one another. Such research involves investigating individual plant-insect interactions to community level processes. This involves determining the roles that plant attributes (plant defensive mechanisms, phenology, spatial distribution) have in influencing insect herbivore host-plant selection, feeding, growth, development, reproduction, and ultimately fitness and species distribution. Additionally, studies of plant-insect interactions must take into account the effects of insect herbivory upon host-plant populations under a variety of different environmental conditions. This includes not only

estimating the impact of insect herbivory upon individual host plants (e.g. estimates of defoliation, leaf-loss, altered plant fitness and distribution, economic losses to crops where applicable) but also includes determining how these impacts are affected by changes in the biotic and abiotic environment of the plant and insect herbivore. As UCR is located at the 3-way interface between 1) one of the world's major urban centers, 2) major agricultural production areas, and 3) unique coastal, mountain, and desert ecosystems, we are provided with a unique opportunity to investigate the interactions between plants and insect herbivores within all 3 types of areas and their interfaces. From an applied perspective this includes studies of phytophagous insects found in ornamental, floricultural, nursery, landscape and turfgrass plants as well as determining the impact of urbanization on native plant-insect associations. Such studies include the direct and indirect effects of air and water anthropogenic pollutants (CO₂, ozone, acidic and particulate precipitation, use of run-off water), as well as other environmental stresses (e.g. habitat loss) upon plant-insect interactions. Currently, we are undertaking studies investigating 1) the use of whole insect communities to assess community recovery following fire or restoration, 2) the impact of land management practices on insect community structure 3) the importance of insect community structure and biomass distribution in determining the habitat quality of endangered species of vertebrate insectivores, 4) integrated pest management approaches directed toward controlling the glassy-winged sharpshooter, and 5) the host-plant selection and utilization by floricultural insect pests.

Dr. Wayne D. Spencer, Senior Conservation Biologist, Conservation Biology Institute, San Diego. Dr. Spencer is a conservation biologist and wildlife ecologist with expertise in conservation planning and endangered species recovery. He has worked on various regional NCCPs and HCPs in California as a consulting biologist, science advisor, and science facilitator, and has been involved in habitat connectivity planning and wildlife movement studies throughout California and the western U.S. His field research focuses primarily on rare and endangered mammal species, including the endangered Stephens' kangaroo rat and Pacific pocket mouse. He is also a Research Associate with the San Diego Natural History Museum.

Dr. Robert H. Webb, Research Hydrologist, U.S. Geological Survey, Tucson, Arizona. Dr. Webb has worked on long-term changes in natural ecosystems of the southwestern United States since 1976. He has degrees in engineering (B.S., University of Redlands, 1978), environmental earth sciences (M.S., Stanford University, 1980), and geosciences (Ph.D, University of Arizona, 1985). His dissertation concerned late Holocene and historical flooding of the Escalante River within Grand Staircase – Escalante National Monument and the relation of that flooding with arroyo downcutting. Since 1985, he has been a research hydrologist with the U.S. Geological Survey in Tucson and an adjunct faculty member of the Departments of Geosciences and Hydrology and Water Resources at the University of Arizona. Dr. Webb does interdisciplinary work merging history, climate change, desert vegetation ecology, hydrology, geomorphology, and Quaternary geology to attempt to understand long-term change in the desert regions of the United States and Mexico. He has authored or edited 13 books, including *Environmental Effects of Off-Road Vehicles* (with Howard Wilshire); *Grand Canyon, A Century of Change*; *Floods, Droughts, and Changing Climates* (with Michael Collier); *The Changing Mile Revisited* (with Raymond Turner); *Cataract Canyon: A Human and Environmental History of the Rivers in Canyonlands* (with Jayne Belnap and John Weisheit); *The Ribbon of Green* (with Stanley A. Leake and Turner), the *Mojave Desert: Ecosystem Processes and Sustainability* (with 5 other

editors); and, most recently, *Repeat Photography: Methods and Applications in the Natural Sciences* (with Diane E. Boyer and Turner).

Theodore J. Weller, Ecologist, USDA Forest Service, Pacific Southwest Research Station, Arcata, California. Mr. Weller has worked with bats since 1996 and has published 10 papers on them in the peer-reviewed scientific literature. His research has focused largely on methodological issues and survey effort necessary to describe bat activity, characterize species assemblages, and monitor their population status at multiple spatial scales. More recently, his attention has turned toward documenting impacts and devising solutions to problems of bat fatalities at wind energy facilities in California. He has conducted research at 2 wind energy facilities within the DRECP planning area where he is applying multiple echolocation monitoring tools to characterize bat activity levels and develop predictive models of bat activity at wind energy facilities. He is a member of the Bats and Wind Energy Cooperative and serves as an Independent Science Advisor to the Altamont Pass Wind Resource Area NCCP..

Appendix B

Draft Vegetation Alliance List for DRECP Region

(includes slopes of adjacent ecoregions as defined in boundary area in
DRECP draft document)

Draft June 14, 2010
Vegetation Classification and Mapping Program
California Department of Fish and Game
Biogeographic Data Branch

Class 1. Mesomorphic Tree Vegetation (Forest and Woodland)

Subclass 1.C. Temperate Forest

Formation 1.C.1. Warm Temperate Forest

Division 1.C.1.c. Madrean Forest and Woodland

Macrogroup MG009. California Forest and Woodland

Group - Californian broadleaf forest and woodland

Aesculus californica Alliance

Quercus chrysolepis (tree) Alliance

Quercus douglasii Alliance

Quercus kelloggii Alliance

Quercus lobata Alliance

Umbellularia californica Alliance

Group - Californian evergreen coniferous forest and woodland

Callitropsis nevadensis Alliance

Juniperus californica Alliance

Pinus attenuata Alliance

Pinus coulteri Alliance

Pinus quadrifolia Alliance

Pinus sabiniana Alliance

Formation 1.C.2. Cool Temperate Forest

Division 1.C.2.b. Western North America Cool Temperate Forest

Macrogroup MG023. Californian–Vancouverian Montane and Foothill Forest

Group - Californian montane conifer forest

Abies concolor Alliance

Abies concolor–*Pinus lambertiana* Alliance

Abies magnifica–*Abies concolor* Alliance

Pinus jeffreyi Alliance

Pinus ponderosa Alliance

Pinus ponderosa–*Calocedrus decurrens* Alliance
Pseudotsuga macrocarpa Alliance

Macrogroup MG020. Rocky Mountain Subalpine and High
Montane Conifer Forest

Group - Rocky Mountain mesic subalpine forest and
woodland

Populus tremuloides Alliance

Group - Western Cordilleran xeric subalpine coniferous
forest and woodland

Pinus albicaulis Alliance

Pinus balfouriana Alliance

Pinus flexilis Alliance

Pinus longaeva Alliance

Macrogroup MG025. Vancouverian Subalpine Forest

Group - Vancouverian mesic montane coniferous forest and
woodland

Abies magnifica Alliance

Pinus contorta ssp. *murrayana* Alliance

Pinus monticola Alliance

Tsuga mertensiana Alliance

Division 1.C.2.c. North American Intermountain Basins Scrub Woodland

Macrogroup MG026. Intermountain Basins Pinyon–Juniper
Woodland

Group - Western Great Basin montane conifer woodland

Juniperus grandis Alliance

Juniperus occidentalis Alliance

Juniperus osteosperma Alliance

Pinus edulis Special Stands

Pinus monophylla Alliance

Division 1.C.2.x. North American Introduced Evergreen Broadleaf and
Conifer Forest

Macrogroup MG027. Introduced North American Mediterranean
woodland and forest

Group - [No subdivision at group level]

Eucalyptus (*camaldulensis*, *globulus*) Semi-natural
Stands

Schinus (*molle*)–*Myoporum laetum* Semi-natural
Stands

Formation 1.C.3. Temperate Flooded and Swamp Forest

Division 1.C.3.b Western North America Flooded and Swamp Forest

Macrogroup MG031. Western cool temperate scrub swamp
Group - Western dogwood thicket
Cornus sericea Alliance

Macrogroup MG034. Western Cordilleran montane–boreal riparian scrub and forest

Group - Great Basin montane riparian scrub
Betula occidentalis Alliance
Rosa woodsii Provisional Alliance
Salix lutea Alliance

Group - Western North American montane–subalpine riparian scrub

Acer glabrum Provisional Alliance
Alnus incana Alliance
Dasiphora fruticosa Alliance
Salix bebbiana Alliance
Salix eastwoodiae Alliance
Salix geyeriana Alliance
Salix jepsonii Alliance
Salix lemmonii Alliance
Salix orestera Alliance
Salix planifolia Provisional Alliance

Group - Vancouverian riparian deciduous forest

Alnus rhombifolia Alliance
Fraxinus latifolia Alliance
Populus trichocarpa Alliance
Salix lucida Alliance

Division 1.C.3.c Western North America Warm Temperate Flooded and Swamp Forest

Macrogroup MG036. Southwestern North American Riparian, Flooded and Swamp Forest/Scrubland

Group - Southwestern North American riparian evergreen and deciduous woodland

Acer negundo Alliance
Platanus racemosa Alliance
Populus fremontii Alliance
Salix gooddingii Alliance
Salix laevigata Alliance
Washingtonia filifera Alliance

Group - Southwestern North American riparian/wash scrub

Baccharis emoryi Provisional Alliance
Baccharis salicifolia Alliance

Baccharis sergiloides Alliance
Forestiera pubescens Alliance
Rosa californica Alliance
Salix exigua Alliance
Salix lasiolepis Alliance
Sambucus nigra Alliance

Group - Southwestern North American introduced riparian scrub

Arundo donax Semi-natural Stands
Tamarix spp. Semi-natural Stands

Class 2. Mesomorphic Shrub and Herb Vegetation (Shrubland and Grassland)

Sub-Class 2.B. Mediterranean Scrub and Grassland

Formation 2.B.1. Mediterranean Scrub

Division 2.B.1.a. California Scrub

Macrogroup MG043. California Chaparral

Group - Californian xeric chaparral

Adenostoma fasciculatum Alliance
Adenostoma fasciculatum–*Salvia apiana* Alliance
Adenostoma fasciculatum–*Salvia mellifera* Alliance
Arctostaphylos glauca Alliance
Ceanothus cuneatus Alliance
Eriodictyon californicum Alliance
Eriodictyon crassifolium Provisional Alliance

Group - Californian mesic chaparral

Cercocarpus montanus Alliance
Prunus ilicifolia Alliance
Quercus berberidifolia Alliance
Quercus berberidifolia–*Adenostoma fasciculatum* Alliance

Group - Californian pre-montane chaparral

Arctostaphylos glandulosa Alliance
Arctostaphylos pringlei ssp. *drupacea* Alliance
Ceanothus leucodermis Alliance
Ceanothus oliganthus Alliance
Quercus chrysolepis (shrub) Alliance
Quercus wislizeni (shrub) Alliance

Macrogroup MG044. California Coastal Scrub

Group - Central and South Coastal Californian coastal sage scrub

Eriogonum fasciculatum Alliance

Eriogonum fasciculatum–*Salvia apiana* Alliance
Eriogonum heermannii Provisional Alliance
Eriogonum wrightii Alliance
Keckiella antirrhinoides Alliance
Salvia apiana Alliance
Salvia mellifera Alliance

Group - Central and south coastal California seral scrub

Dendromecon rigida Alliance
Ericameria linearifolia Provisional Alliance
Ericameria palmeri Provisional Alliance
Gutierrezia californica Provisional Alliance
Hazardia squarrosa Alliance
Lotus scoparius Alliance
Lupinus albifrons Alliance
Malacothamnus fasciculatus Alliance

Group - Naturalized non-native Mediterranean scrub

Broom (*Cytisus scoparius* and others) Semi-natural
Stands

Formation 2.B.2. Mediterranean Grassland and Forb Meadow

Division 2.B.2.a. California Grassland and Meadow

Macrogroup MG045. California Annual and Perennial Grassland

Group - California annual forb/grass vegetation

Ambrosia psilostachya Provisional Alliance
Amsinckia (menziesii, tessellata) Alliance
Artemisia dracunculus Alliance
Eschscholzia (californica) Alliance
Lasthenia californica–*Plantago*
erecta–*Vulpia microstachys* Alliance
Lotus purshianus Provisional Alliance
Plagiobothrys nothofulvus Alliance

Group - California perennial grassland

Nassella cernua Provisional Alliance
Nassella lepida Provisional Alliance
Nassella pulchra Alliance

Group - Mediterranean California naturalized annual and
perennial grassland

Aegilops triuncialis Semi-natural Stands
Avena (barbata, fatua) Semi-natural Stands
Brassica (nigra) and other mustards Semi-natural
Stands

Bromus (diandrus, hordeaceus)–Brachypodium distachyon

Semi-natural Stands

Bromus rubens–Schismus (arabicus, barbatus)

Semi-natural Stands

Centaurea (solstitialis, melitensis) Semi-natural Stands

Centaurea (virgata) Semi-natural Stands

Lolium perenne Semi-natural Stands

Pennisetum setaceum Semi-natural Stands

Subclass 2.C. Temperate and Boreal Shrubland and Grassland

Formation 2.C.1. Temperate Grassland, Meadow, and Shrubland

Division 2.C.1.a. Vancouverian and Rocky Mountain Grassland and Shrubland

Macrogroup MG047. Western Cordilleran montane-boreal wet meadow

Group - Western Cordilleran montane-boreal summer-drying wet meadow

Carex douglasii Provisional Alliance

Iris missouriensis Provisional Alliance

Muhlenbergia filiformis Provisional Alliance

Veratrum californicum Alliance

Group - Western cordilleran montane-boreal mesic wet meadow

Carex heteroneura Provisional Alliance

Carex integra Provisional Alliance

Carex jonesii Alliance

Carex lasiocarpa Provisional Alliance

Carex microptera Provisional Alliance

Carex nebrascensis Alliance

Carex stramineiformis Provisional Alliance

Carex subnigricans Alliance

Deschampsia caespitosa Alliance

Juncus nevadensis Alliance

Solidago canadensis Provisional Alliance

Trifolium longipes Provisional Alliance

Macrogroup MG048. Western North American Temperate Grassland and Meadow

Group - Western dry upland perennial grassland

Aristida purpurea Provisional Alliance

Elymus glaucus Alliance

Elymus multisetus Provisional Alliance

Leymus cinereus Alliance
Poa secunda Alliance

Group - Vancouverian and Rocky Mountain naturalized perennial grassland

Agrostis (stolonifera, gigantea)-
Festuca arundinacea Semi-natural Stands
Holcus lanatus-*Anthoxanthum odoratum* Semi-natural Stands
Phalaris aquatica Semi-natural Stands
Poa pratensis Semi-natural Stands

Group - Vancouverian and Rocky Mountain naturalized annual grassland

Bromus tectorum Semi-natural Stands

Macrogroup MG049. Western Cordilleran Montane Shrubland and Grassland

Group - Western Cordilleran montane moist graminoid meadow

Calamagrostis canadensis Alliance
Cistanthe (umbellata)-*Gayophytum (diffusum)* Alliance
Danthonia intermedia Provisional Alliance
Hordeum brachyantherum Alliance
Muhlenbergia richardsonis Provisional Alliance
Penstemon heterodoxus Provisional Alliance
Ptilagrostis kingii Alliance

Group - Sierran montane rock crevice and outcrop scrub and herbaceous

Holodiscus discolor Alliance
Juncus parryi Alliance
Penstemon newberryi Alliance
Phyllodoce breweri Alliance

Group - Southern Vancouverian montane deciduous scrub

Ceanothus integerrimus Alliance
Prunus emarginata Provisional Alliance
Quercus garryana Shrub Alliance

Group - Western Cordilleran montane deciduous scrub

Artemisia cana Alliance
Prunus virginiana Provisional Alliance
Rhus trilobata Provisional Alliance
Ribes quercetorum Provisional Alliance

Macrogroup MG050. Vancouverian Lowland Grassland and Shrubland

Group - Naturalized non-native deciduous scrub
Rubus armeniacus Semi-natural Stands

Division 2.C.1.x. Western North America Interior Sclerophyllous Shrubland

Macrogroup MG051. Warm Interior Chaparral

Group - Western Mojave and Western Sonoran Desert
borderland chaparral

Adenostoma sparsifolium Alliance
Quercus cornelius-mulleri Alliance
Quercus john-tuckeri Alliance
Quercus palmeri Alliance

Group - Mogollon Rim chaparral
Ceanothus greggii Alliance
Quercus turbinella Alliance
Rhus ovata Alliance

Macrogroup MG052. Western North American Cool/Montane Sclerophyllous Evergreen Scrub

Group - Californian montane chaparral
Ceanothus cordulatus Alliance
Chrysolepis sempervirens Alliance
Quercus vacciniifolia Alliance

Group - Western Cordilleran montane sclerophyll scrub
Arctostaphylos patula Alliance
Ceanothus velutinus Alliance

Formation 2.C.4. Temperate and Boreal Bog and Fen*

Division 2.C.4.a. North American Scrub and Herb Peatland

Macrogroup MG063. Western North American Montane/Boreal Peatland

Group - [No group subdivision]
Carex limosa Alliance
Carex luzulina Provisional Alliance
Dulichium arundinaceum Provisional Alliance
Rhododendron neoglandulosum Alliance
Vaccinium uliginosum Alliance

Formation 2.C.5. Temperate and Boreal Freshwater Marsh

Division 2.C.5.b. Western North American Freshwater Marsh

Macrogroup MG073. Western North American Freshwater Marsh

Group - Arid West freshwater emergent marsh

Phragmites australis Alliance

Schoenoplectus acutus Alliance

Schoenoplectus californicus Alliance

Typha (*angustifolia*, *domingensis*, *latifolia*) Alliance

Macrogroup MG074. Western North America Vernal Pool

Group - Californian mixed annual/perennial freshwater vernal pool/swale/plain bottomland

Alopecurus geniculatus Provisional Alliance

Lasthenia fremontii–*Downingia (bicornuta)* Alliance

Eleocharis macrostachya Alliance

Eleocharis acicularis Alliance

Grindelia (stricta) Provisional Alliance

Centromadia (pungens) Alliance

Deinandra fasciculata Alliance

Macrogroup MG075. Western North America Wet Meadow and Low Shrub Carr

Group - Western Cordilleran montane-boreal summer-saturated meadow

Bistorta bistortoides–*Mimulus primuloides* Alliance

Camassia quamash Alliance

Carex (aquatilis, lenticularis) Alliance

Carex nigricans Provisional Alliance

Carex scopulorum Alliance

Carex simulata Alliance

Carex (utriculata, vesicaria) Alliance

Eleocharis quinqueflora Alliance

Glyceria (elata, striata) Alliance

Glyceria occidentalis Provisional Alliance

Oxypolis occidentalis Alliance

Senecio triangularis Alliance

Torreyochloa pallida Alliance

Group - Californian warm temperate marsh/seep

Carex barbarae Alliance

Carex densa Provisional Alliance

Carex nudata Alliance

Juncus arcticus (var. *balticus*, *mexicana*) Alliance

Juncus (oxymetris, xiphioides) Provisional Alliance

Leymus triticoides Alliance

Mimulus (guttatus) Alliance

Muhlenbergia rigens Alliance

Group - Naturalized warm-temperate riparian and wetland group

Lepidium latifolium Semi-natural Stands
Persicaria lapathifolia–*Xanthium strumarium*
Provisional Alliance

Formation 2.C.6. Temperate and Boreal Salt Marsh

Division 2.C.6.c Temperate and Boreal Pacific Coastal Salt Marsh

Macrogroup MG081. North American Pacific Coastal Salt Marsh

Group - Temperate Pacific tidal salt and brackish meadow

Bolboschoenus maritimus Alliance
Distichlis spicata Alliance

Group - Western North American disturbed alkaline marsh and meadow

Sesuvium verrucosum Alliance
Atriplex prostrata–*Cotula coronopifolia* Semi-natural Stands

Division 2.C.6.d Western North American Interior Alkali–Saline Wetland

Macrogroup MG082. Cool Semi-Desert Alkali–Saline Wetlands

Group - Great Basin cool semi-desert alkali basin

Sarcobatus vermiculatus Alliance

Macrogroup MG083. Warm Semi-Desert/Mediterranean Alkali–Saline Wetland

Group - Southwestern North American alkali marsh/seep vegetation

Anemopsis californica Alliance
Juncus cooperi Alliance
Schoenoplectus americanus Alliance
Spartina gracilis Alliance
Sporobolus airoides Alliance

Group - Southwestern North American salt basin and high marsh

Allenrolfea occidentalis Alliance
Arthrocnemum subterminale Alliance
Atriplex lentiformis Alliance
Atriplex spinifera Alliance
Cressa truxillensis–*Distichlis spicata* Alliance
Frankenia salina Alliance
Suaeda moquinii Alliance

Class 3. Xeromorphic Scrub and Herb Vegetation (Semi-Desert)

Subclass 3.A. Warm Semi-Desert Scrub and Grassland

Formation 3.A.1. Warm Semi-Desert Scrub and Grassland

Division 3.A.1.a Sonoran and Chihuahuan Semi-Desert Scrub and Grassland

Macrogroup MG088. Mojavean–Sonoran Desert Scrub

Group - Lower Bajada and Fan Mojavean–Sonoran desert scrub

Ambrosia dumosa Alliance

Ambrosia salsola Alliance

Atriplex polycarpa Alliance

Encelia farinosa Alliance

Larrea tridentata Alliance

Larrea tridentata–*Ambrosia dumosa* Alliance

Larrea tridentata–*Encelia farinosa* Alliance

Cylindropuntia bigelovii Alliance

Pleuraphis rigida Alliance

Tidestromia oblongifolia Provisional Alliance

Group - Arizonan upland Sonoran desert scrub

Parkinsonia microphylla Provisional Alliance

Prunus fremontii Alliance

Simmondsia chinensis Provisional Alliance

Tetracoccus hallii Provisional Alliance

Viguiera parishii Alliance

Ziziphus obtusifolia Special Stands

Group - Mojavean upper desert scrub

Menodora spinescens Alliance

Salazaria mexicana Alliance

Yucca brevifolia Alliance

Yucca schidigera Alliance

Macrogroup MG089. Viscaino–Baja California Desert Scrub

Group - Baja California del Norte Gulf Coast–ocotillo–limberbush–creosote bush desert scrub

Bursera microphylla Special Stands

Macrogroup MG092. Madrean Warm Semi-Desert Wash Woodland/Scrub

Group - Mojavean semi-desert wash scrub

Acacia greggii Alliance

Ephedra californica Alliance

Ericameria paniculata Alliance

Lepidospartum squamatum Alliance

Prunus fasciculata Alliance

Viguiera reticulata Alliance

Group - Sonoran-Coloradan semi-desert wash
woodland/scrub

Agave deserti Alliance
Castela emoryi Special Stands
Chilopsis linearis Alliance
Hyptis emoryi Alliance
Justicia californica Provisional Alliance
Koeberlinia spinosa Special Stands
Parkinsonia florida–*Olneya tesota* Alliance
Pluchea sericea Alliance
Prosopis glandulosa Alliance
Prosopis pubescens Alliance
Psoralea argophylla Alliance

Subclass 3.B. Cool Semi-Desert Scrub and Grassland

Formation 3.B.1. Cool Semi-Desert Scrub and Grassland

Division 3.B.1.a. Western North American Cool Semi-Desert Scrub and
Grassland

Macrogroup MG093. Western North American Cool Semi-Desert
Shrubland, Shrub-Steppe

Group - Shadscale-saltbush cool semi-desert scrub

Atriplex confertifolia Alliance
Atriplex canescens Alliance

Macrogroup MG095. Cool Semi-desert wash and disturbance
scrub

Group - Intermontane seral shrubland

Encelia virginensis Alliance
Ericameria nauseosa Alliance
Ericameria parryi Alliance
Ericameria teretifolia Alliance
Gutierrezia sarothrae Provisional Alliance
Salvia dorrii Alliance

Macrogroup MG096. Western North America Tall Sage Shrubland
and Steppe

Group - Inter-Mountain West mesic tall sagebrush
shrubland and steppe

Artemisia rothrockii Alliance
Artemisia tridentata Alliance
Artemisia tridentata ssp. *vaseyana* Alliance

Macrogroup MG097. Western North America Dwarf Sage
Shrubland and Steppe

Group - Intermountain low sage shrubland and steppe
Artemisia arbuscula ssp. *arbuscula* Alliance
Artemisia arbuscula ssp. *longicaulis* Provisional Alliance
Artemisia nova Alliance

Macrogroup MG098. Inter-Mountain Dry Shrubland and Grassland

Group - Intermontane deep or well-drained soil scrub
Ephedra nevadensis Alliance
Ephedra viridis Alliance
Grayia spinosa Alliance
Krascheninnikovia lanata Alliance
Lycium andersonii Alliance

Group - Intermountain shallow/calcareous soil scrub
Cercocarpus intricatus Alliance
Cercocarpus ledifolius Alliance
Coleogyne ramosissima Alliance
Nolina (bigelovii, parryi) Alliance
Purshia stansburiana Alliance
Purshia tridentata Alliance

Group - Northern Great Basin semi-desert grassland group
Achnatherum hymenoides Alliance
Pseudoroegneria spicata Alliance
Agropyron cristatum Semi-natural Stands

Group - Southern Great Basin semi-desert grassland group
Achnatherum speciosum Alliance
Pleuraphis jamesii Alliance

Class 4. Cryomorphic Shrub and Herb Vegetation (Polar and High Montane Vegetation)

Subclass 4.B. Temperate and Boreal Alpine Vegetation

Fomation 4.B.1. Alpine Scrub, Forb Meadow, and Grassland

Division 4.B.1.b Western North America Alpine Scrub, Forb Meadow, and Grassland

Macrogroup MG099. Rocky Mountain Alpine Scrub, Forb Meadow, and Grassland

Group - Rocky Mountain alpine turf
Kobresia myosuroides Alliance
Salix nivalis Provisional Alliance
Salix petrophila Alliance

Macrogroup MG101. Vancouverian Alpine Scrub, Forb Meadow, and Grassland

Group - Californian alpine–subalpine turf

Calamagrostis muiriana Alliance

Carex breweri Alliance

Carex filifolia Alliance

Festuca brachyphylla Alliance

Kalmia microphylla Alliance

Vaccinium cespitosum Alliance

Group - Vancouverian snowbank turf

Carex helleri Alliance

Carex spectabilis Alliance

Cassiope mertensiana Provisional Alliance

Saxifraga nidifica Provisional Alliance

Saxifraga tolmiei Provisional Alliance

Group - Mediterranean California alpine fell-field

Calamagrostis purpurascens Alliance

Carex congdonii Provisional Alliance

Ericameria discoidea–*Hulsea algida* Alliance

Oxyria digyna Provisional Alliance

Phlox covillei Alliance

Phlox pulvinata Alliance

Class 5. Hydromorphic Vegetation (Aquatic Vegetation)

Subclass 5.A. Saltwater Aquatic Vegetation

Formation 5.A.1. Marine and Estuarine Saltwater Aquatic Vegetation

Division 5.A.1.c. Temperate Pacific Saltwater Aquatic Vegetation

Macrogroup MG106. Temperate Pacific Intertidal Shore

Group - Temperate Pacific intertidal flat

Stuckenia (*pectinata*)–*Potamogeton* spp. Alliance

Subclass 5.B. Freshwater Aquatic Vegetation

Formation 5.B.1. Freshwater Aquatic Vegetation

Division 5.B.1.a North American Freshwater Aquatic Vegetation

Macrogroup MG109. Western North American Freshwater Aquatic Vegetation

Group - Temperate Pacific freshwater aquatic bed

Isoetes spp. Provisional Alliance

Nuphar lutea Provisional Alliance

Sparganium (*angustifolium*) Alliance

Group - Temperate freshwater floating mat

Azolla (*filiculoides*, *mexicana*) Provisional Alliance

Lemna (*minor*) and relatives Provisional Alliance

Group - Naturalized temperate Pacific freshwater
vegetation

Ludwigia (hexapetala, peploides) Semi-natural
Stands

Class 6 Lithomorphic Vegetation (Nonvascular and Sparse Vascular Rock Vegetation)

Subclass 6.B. Mediterranean, Temperate, and Boreal Nonvascular and Sparse Vegetation

Formation 6.B.1. Mediterranean Cliff, Scree, and Rock Vegetation

Division 6.B.1.a. North American Mediterranean Rock Outcrop,
Scree, and Talus Nonvascular and Sparse Vascular Vegetation

Macrogroup MG110. California Cliff, Scree, and Other Rock
Vegetation

Group - Central California Coast Ranges cliff and canyon

Sedum spathulatum Provisional Alliance

Selaginella bigelovii Alliance

Division 6.B.2.b. Western North America Temperate Cliff, Scree, and
other Rock Vegetation

Macrogroup MG114. Vancouverian Cliff, Scree, and Other Rock
Vegetation

Group - Sierra Nevada cliff and canyon

Subclass 6.C Semi-Desert Nonvascular and Sparse Vascular Vegetation

Formation 6.C.1 Warm Semi-Desert Cliff, Scree, and Rock Vegetation

Division 6.C.1.a North American Warm Semi-Desert Cliff, Scree, and
Rock Vegetation

Macrogroup MG117. North American Warm Semi-Desert Cliff,
Scree, and Other Rock Vegetation

Group - North American warm desert dunes and sand flats

Dicoria canescens–*Abronia villosa* Alliance

Panicum urvilleanum Alliance

Swallenia alexandrae Special Stands

Group - North American warm desert bedrock cliff and
outcrop

Atriplex hymenelytra Alliance

Ephedra funerea Provisional Alliance

Appendix C

Individuals with Known Expertise Regarding Sensitive Invertebrates in the DRECP Planning Area

Name	Affiliation	Contact Information	Expertise
Dr. Doug Yanega	Dept. Entomology, University of California, Riverside, CA 92521	Douglas.yanega@ucr.edu	Insects, Hymenoptera <i>and able to direct inquiries to other museum staff</i>
Dr. Lynn Kimsey	Professor and Curator, Bohrt Entomology Museum. Dept. Entomology, University of California, Davis, CA, 95616	lskimsey@ucdavis.edu	Insects especially on dunes, <i>and able to direct inquiries to other museum staff</i>
Dr. William Wiesenborn	US Bureau of Reclamation, P.O. Box 61470, Boulder City, NV 89006		Gastropods, Insects
Dr. Rosemary Gillespie	Director, UCB Essig Museum, Essig Museum of Entomology University of California, Berkeley, CA 94720	Gillespie@berkeley.edu	Insects, Arachnids, <i>and able to direct inquiries to other museum staff</i>
Dr. Michael Wall	Curator of Entomology, San Diego Natural History Museum, P.O Box 121390, San Diego, CA 92112	mwall@sdnhm.org	Insects, <i>and able to direct inquiries to other museum staff</i>
Dr. Gordon Pratt	Dept. Entomology, University of California, Riverside, CA 92521	Gordon.pratt@ucr.edu	Insects, Lepidoptera
Dr. Travis Longcore	Dept. Geography, University of Southern California, Los Angeles, CA 90089	longcore@usc.edu	Insects, Lepidoptera, Diptera, Coleoptera

Name	Affiliation	Contact Information	Expertise
Dr. Dave Kavanaugh	Chair and Curator, Dept of Entomology, California Academy of Sciences	dkavanaugh@calacademy.org 415-379-5315	Insects, Coleoptera <i>and able to direct inquiries to other museum staff</i>
Dr. Joel Martin	Curator of Crustacea and Chair of Invertebrate Studies, Natural History Museum of Los Angeles, Los Angeles CA	213-763-3466	Crustacea <i>and able to direct inquiries to other museum staff</i>
Dr. Brian Brown	Curator of Entomology, Natural History Museum of Los Angeles,	213-763-3466	Insects, Diptera
Dr. Michael Fugate	Dept. Biology, University of California, Riverside, CA 92516	Michael.Fugate@ucr.edu 951-8272647	Crustaceans (fairy shrimp)
Mr. David Hawks	Dept. Entomology University of California, Riverside, CA 92516	David.hawks@ucr.edu	Insects, beetles
Mr. Greg Ballmer	Dept. of Entomology, University of California, Riverside, CA 92516	ballmer@ucr.edu	Insects, Lepidoptera, Coleoptera
Mr. Thomas Prentice	Dept. Entomology, University of California, Riverside, CA 92516	Thomas.prentice@ucr.edu	Arachnids
Mr. Rick Vetter	Dept. Entomology, University of California, Riverside, CA 92516	Rick.vetter@ucr.edu	Arachnids
Mr. Jeremiah George	Dept. Entomology, University of California, Riverside, CA 92516	Georgj01@student.ucr.edu	Insects
Mr. Kendall Osborne	Osborne Consulting, 6675 Avenue Juan Diaz, Riverside, CA 92509	951-360-6461	Insects

Appendix D

CNPS List 1B & 2 Taxa in the DRECP Planning Area

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Abert's sanvitalia	<i>Sanvitalia abertii</i>	None	None	G5	S1S2	2.2
Abrams' spurge	<i>Chamaesyce abramsiana</i>	None	None	G4	S1.2	2.2
Algodones Dunes sunflower	<i>Helianthus niveus ssp. tephrodes</i>	None	Endangered	G4T2	S1.2	1B.2
Alkali mariposa-lily	<i>Calochortus striatus</i>	None	None	G2	S2	1B.2
Amargosa beardtongue	<i>Penstemon fruticiformis</i> var. <i>amargosae</i>	None	None	G4T3	S2.3	1B.3
Amargosa nitrophila	<i>Nitrophila mohavensis</i>	None	Endangered	G1	S1.1	1B.1
Angel trumpets	<i>Acleisanthes longiflora</i>	None	None	G5	S1.3	2.3
Annual rock-nettle	<i>Eucnide rupestris</i>	None	None	G3	S1	2.2
Appressed muhly	<i>Muhlenbergia appressa</i>	None	None	G4	S3?	2.2
Arizona cottontop	<i>Digitaria californica</i>	None	None	G5	S1.3	2.3
Arizona pholistoma	<i>Pholistoma auritum</i> var. <i>arizonicum</i>	None	None	G5T2T3	S1.3	2.3
Arizona spurge	<i>Chamaesyce arizonica</i>	None	None	G5	S1.3	2.3
Ash Meadows buckwheat	<i>Eriogonum contiguum</i>	None	None	G2?	S2?	2.3
Ash Meadows gumplant	<i>Grindelia fraxinipratensis</i>	None	None	G2	S1.2	1B.2
Ash-gray paintbrush	<i>Castilleja cinerea</i>	None	None	G2	S2.2	1B.2
Aven Nelson's phacelia	<i>Phacelia anelsonii</i>	None	None	G2G3	S2.3?	2.3
Baja California ipomopsis	<i>Ipomopsis effusa</i>	None	None	G3?	S1.1	2.1
Baja navarretia	<i>Navarretia peninsularis</i>	None	None	G3?	S2.2	1B.2
Bald daisy	<i>Erigeron calvus</i>	None	None	G1Q	S1.1	1B.1

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Baldwin Lake linanthus	<i>Linanthus killipii</i>	None	None	G2	S2.1	1B.2
Bare-stem larkspur	<i>Delphinium scaposum</i>	None	None	G5	S1.3	2.3
Barneby's phacelia	<i>Phacelia barnebyana</i>	None	None	G3?	S2.3	2.3
Barstow woolly sunflower	<i>Eriophyllum mohavense</i>	None	None	G2	S2.2	1B.2
Bear Valley pyrrocoma	<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	None	None	G5T2	S2.2	1B.2
Big Bear Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	None	None	G5T1	S1?	1B.2
Big Bear Valley phlox	<i>Phlox dolichantha</i>	None	None	G2	S2.2	1B.2
Big Bear Valley sandwort	<i>Arenaria ursina</i>	None	None	G2	S2.1	1B.2
Big Bear Valley woollypod	<i>Astragalus leucolobus</i>	None	None	G2	S2.2	1B.2
Bird-foot checkerbloom	<i>Sidalcea pedata</i>	None	Endangered	G1	S1.1	1B.1
Bitter hymenoxys	<i>Hymenoxys odorata</i>	None	None	G5	S2	2
Black bog-rush	<i>Schoenus nigricans</i>	None	None	G4	S2.2	2.2
Black milk-vetch	<i>Astragalus funereus</i>	None	None	G2	S2.2	1B.2
Booth's evening-primrose	<i>Camissonia boothii</i> ssp. <i>boothii</i>	None	None	G5T4	S2.3	2.3
Booth's hairy evening-primrose	<i>Camissonia boothii</i> ssp. <i>intermedia</i>	None	None	G5T3T4	S2.3	2.3
Breedlove's buckwheat	<i>Eriogonum breedlovei</i> var. <i>breedlovei</i>	None	None	G3T2	S2.2	1B.2
Bristly scaleseed	<i>Spermolepis echinata</i>	None	None	G5	S1.3	2.3
Brown fox sedge	<i>Carex vulpinoidea</i>	None	None	G5	S2.2	2.2
Brown turbans	<i>Malperia tenuis</i>	None	None	G4?	S1.3	2.3
Burro grass	<i>Scleropogon brevifolius</i>	None	None	G5	S1.3	2.3
Calico monkeyflower	<i>Mimulus pictus</i>	None	None	G2	S2.2	1B.2
California ayenia	<i>Ayenia compacta</i>	None	None	G4	S3.3	2.3
California dandelion	<i>Taraxacum californicum</i>	None	None	G2	S2.1	1B.1

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
California marina	<i>Marina orcuttii</i> var. <i>orcuttii</i>	None	None	G2G3T1T2	S1.3	1B.3
California satintail	<i>Imperata brevifolia</i>	None	None	G2	S2.1	2.1
California saw-grass	<i>Cladium californicum</i>	None	None	G4	S2.2	2.2
Cave evening-primrose	<i>Oenothera cavernae</i>	Endangered	None	G2G3	S1	2.1
Chambers' physaria	<i>Physaria chambersii</i>	None	None	G4	S2.3	2.3
Chaparral sand-verbena	<i>Abronia villosa</i> var. <i>aurita</i>	Endangered	None	G5T3T4	S2.1	1B.1
Charleston sandwort	<i>Arenaria congesta</i> var. <i>charlestonensis</i>	None	None	G5T2?	S1.3	1B.3
Charlotte's phacelia	<i>Phacelia nashiana</i>	None	None	G3	S3.2	1B.2
Cima milk-vetch	<i>Astragalus cimae</i> var. <i>cimae</i>	None	None	G2T2	S2.3	1B.2
Clark Mountain spurge	<i>Euphorbia exstipulata</i> var. <i>exstipulata</i>	None	None	G5T5?	S1.3	2.1
Cliff cinquefoil	<i>Potentilla rimicola</i>	None	None	G2G4	S1.3	2.3
Cliff spurge	<i>Euphorbia misera</i>	None	None	G5	S3.2	2.2
Clokey's cryptantha	<i>Cryptantha clokeyi</i>	None	None	G1	S1.1	1B.1
Coachella Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	None	None	G5T2	S2.1	1B.2
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	None	None	G4T3	S2.1	1B.1
Coves' cassia	<i>Senna covesii</i>	None	None	G5?	S2.2	2.2
Coyote gilia	<i>Aliciella triodon</i>	None	None	G5	S1.2	2.2
Creamy blazing star	<i>Mentzelia tridentata</i>	None	None	G2	S2.3	1B.3
Curved-spine beavertail	<i>Opuntia curvispina</i>	None	None	G3G4	S1.2	2.2
Cushenbury buckwheat	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	None	None	G5T1	S1.1	1B.1
Cushenbury milk-vetch	<i>Astragalus albens</i>	None	None	G1	S1.1	1B.1
Cushenbury oxytheca	<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	None	None	G4?T1	S1.1	1B.1

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Darlington's blazing star	<i>Mentzelia puberula</i>	None	None	G4	S2	2.2
Darwin rock-cress	<i>Arabis pulchra</i> var. <i>munciensis</i>	None	None	G5T4?	S1.3	2.3
Davidson's bush-mallow	<i>Malacothamnus davidsonii</i>	None	None	G1	S1.1	1B.2
Death Valley blue-eyed grass	<i>Sisyrinchium funereum</i>	Endangered	None	G2G3	S2.3	1B.3
Death Valley round-leaved phacelia	<i>Phacelia mustelina</i>	None	None	G2	S1.3	1B.3
Death Valley sandpaper-plant	<i>Petalonyx thurberi</i> ssp. <i>gilmanii</i>	None	None	G5T2	S2.3	1B.3
Deep Canyon snapdragon	<i>Antirrhinum cyathiferum</i>	None	None	G4?	S1.3	2.3
Delicate bluecup	<i>Githopsis tenella</i>	None	None	G2	S2.3	1B.3
Delicate muhly	<i>Muhlenbergia fragilis</i>	None	None	G5?	S1.3?	2.3
Desert ageratina	<i>Ageratina herbacea</i>	None	None	G5	S2.3	2.3
Desert bedstraw	<i>Galium proliferum</i>	None	None	G5	S2	2.2
Desert cymopterus	<i>Cymopterus deserticola</i>	None	None	G3	S3.2	1B.2
Desert germander	<i>Teucrium glandulosum</i>	None	None	G4	S1.3	2.3
Desert mountain thistle	<i>Cirsium arizonicum</i> var. <i>tenuisectum</i>	None	None	G5T2	S1.2	1B.2
Desert pincushion	<i>Coryphantha chlorantha</i>	None	None	G2G3	S1	2.1
Desert popcorn-flower	<i>Plagiobothrys salsus</i>	None	None	G2G3	S1.2?	2.2
Desert sand-parsley	<i>Ammoselinum giganteum</i>	None	None	G2G3	SH	2.3
Desert spike-moss	<i>Selaginella eremophila</i>	None	None	G4	S2.2?	2.2
Desert wing-fruit	<i>Selinocarpus nevadensis</i>	None	None	G5	S1.3	2.3
Drummond's false pennyroyal	<i>Hedeoma drummondii</i>	None	None	G5	S1.2	2.2
Dwarf abutilon	<i>Abutilon parvulum</i>	None	None	G5	S1.3	2.3
Dwarf germander	<i>Teucrium cubense</i> ssp. <i>depressum</i>	Endangered	None	G4G5T3T4	S2	2.2
Emory's crucifixion-thorn	<i>Castela emoryi</i>	None	None	G3	S2.2	2.3

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Ewan's cinquefoil	<i>Potentilla glandulosa</i> ssp. <i>ewanii</i>	None	None	G5T1	S1	1B.3
False buffalo-grass	<i>Munroa squarrosa</i>	None	None	G5	S1S2	2.2
Few-flowered muhly	<i>Muhlenbergia pauciflora</i>	None	None	G5	S1.3?	2.3
Flat-seeded spurge	<i>Chamaesyce platysperma</i>	None	None	G3	S1.2?	1B.2
Forked buckwheat	<i>Eriogonum bifurcatum</i>	None	None	G2	S1.2	1B.2
Forked purple mat	<i>Nama dichotomum</i> var. <i>dichotomum</i>	None	None	G4T4?	S1.3?	2.3
Fort Tejon woolly sunflower	<i>Eriophyllum lanatum</i> var. <i>hallii</i>	None	None	G5T1	S1.1	1B.1
Foxtail thelypodium	<i>Thelypodium integrifolium</i> ssp. <i>complanatum</i>	None	None	G5T5	S2.2	2.2
Frog's-bit buttercup	<i>Ranunculus hydrocharoides</i>	None	None	G4G5	S1.1	2.1
Frosted mint	<i>Poliomintha incana</i>	Endangered	None	G5	SH	1A
Gander's cryptantha	<i>Cryptantha ganderi</i>	None	None	G1G2	S1.1	1B.1
Geyer's milk-vetch	<i>Astragalus geyeri</i> var. <i>geyeri</i>	None	None	G4T4	S2.2	2.2
Giant spanish-needle	<i>Palafoxia arida</i> var. <i>gigantea</i>	None	None	G5T3	S1.2	1B.3
Gilman's cymopterus	<i>Cymopterus gilmanii</i>	None	None	G3?	S2.2	2.3
Gilman's goldenbush	<i>Ericameria gilmanii</i>	None	None	G1	S1	1B.3
Glandular ditaxis	<i>Ditaxis claryana</i>	None	None	G4G5	S1S2	2.2
Golden violet	<i>Viola aurea</i>	None	None	G3G4	S2S3	2.2
Golden-carpet gilmania	<i>Gilmania luteola</i>	None	None	G1	S1.3	1B.3
Goodding's phacelia	<i>Phacelia pulchella</i> var. <i>gooddingii</i>	None	None	G5T2T3	S1.3?	2.3
Greata's aster	<i>Symphotrichum greatae</i>	None	None	G2	S2.3	1B.3
Greene's rabbitbrush	<i>Chrysothamnus greenei</i>	None	None	G5	S3.2	2.3
Hairy erioneuron	<i>Erioneuron pilosum</i>	None	None	G5	S2S3	2.3

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Hairy stickleaf	<i>Mentzelia hirsutissima</i>	None	None	G3?	S2S3	2.3
Hairy-podded fine-leaf hymenopappus	<i>Hymenopappus filifolius</i> var. <i>eriopodus</i>	None	None	G5T3	S1.3	2.3
Hall's daisy	<i>Erigeron aequifolius</i>	None	None	G2	S2.3	1B.3
Hall's meadow hawksbeard	<i>Crepis runcinata</i> ssp. <i>hallii</i>	None	None	G5T3?	S2?	2.1
Hall's monardella	<i>Monardella macrantha</i> ssp. <i>hallii</i>	None	None	G5T3	S3.3	1B.3
Harwood's eriastrum	<i>Eriastrum harwoodii</i>	Endangered	None	G2	S2	1B.2
Harwood's milk-vetch	<i>Astragalus insularis</i> var. <i>harwoodii</i>	None	None	G5T3	S2.2?	2.2
Hidden Lake bluecurls	<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	None	None	G3G4T1	S1.1	1B.1
Hillman's silverscale	<i>Atriplex argentea</i> var. <i>hillmanii</i>	None	None	G5T3?	S2.2	2.2
Hillside wheat grass	<i>Leymus salinus</i> ssp. <i>mojavensis</i>	None	None	G5T3?	S1.3	2.3
Hoffmann's buckwheat	<i>Eriogonum hoffmannii</i> var. <i>hoffmannii</i>	None	None	G3T2	S2.3	1B.3
Horn's milk-vetch	<i>Astragalus hornii</i> var. <i>hornii</i>	None	None	G4G5T2T3	S2S3.1	1B.1
Hot springs fimbristylis	<i>Fimbristylis thermalis</i>	None	None	G4	S2.2	2.2
Howe's hedgehog cactus	<i>Echinocereus engelmannii</i> var. <i>howei</i>	None	None	G5T1	S1.1	1B.1
Inland rush	<i>Juncus interior</i>	None	None	G4	S1	2.2
Inyo blazing star	<i>Mentzelia inyoensis</i>	None	None	G2	S2.3	1B.3
Inyo County star-tulip	<i>Calochortus excavatus</i>	None	None	G3	S3.1	1B.1
Inyo phacelia	<i>Phacelia inyoensis</i>	None	None	G3	S3.2	1B.2

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Ivory-spined agave	<i>Agave utahensis</i> var. <i>eborispina</i>	None	None	G4T3Q	S1.3	1B.3
Jackass-clover	<i>Wislizenia refracta</i> ssp. <i>refracta</i>	None	None	G5T5?	S1.2?	2.2
Jaeger's ivesia	<i>Ivesia jaegeri</i>	None	None	G2G3	S1.3	1B.3
Jaeger's phacelia	<i>Phacelia perityloides</i> var. <i>jaegeri</i>	None	None	G4T2	S1.3	1B.3
Johnson's bee-hive cactus	<i>Sclerocactus johnsonii</i>	None	None	G3G4	S2.2	2.2
Johnston's buckwheat	<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	None	None	G5T2	S2	1B.3
Johnston's rock-cress	<i>Arabis johnstonii</i>	None	None	G1	S1.2	1B.2
Jointed buckwheat	<i>Eriogonum intrafractum</i>	None	None	G2	S2.3	1B.3
Juniper sulphur-flowered buckwheat	<i>Eriogonum umbellatum</i> var. <i>juniporinum</i>	None	None	G5T3?	S1S2	2.3
Kelso Creek monkeyflower	<i>Mimulus shevockii</i>	None	None	G2	S2	1B.2
Kern buckwheat	<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Threatened	None	G4T1	S1.1	1B.1
King's eyelash grass	<i>Blepharidachne kingii</i>	Endangered	None	G4	S1.3	2.3
Kingston Mountains bedstraw	<i>Galium hilendiae</i> ssp. <i>kingstonense</i>	None	None	G4T2	S1.3	1B.3
Kingston Mountains ivesia	<i>Ivesia patellifera</i>	None	None	G1	S1.3	1B.3
Knotted rush	<i>Juncus nodosus</i>	None	None	G5	S2.3	2.3
Kofa barberry	<i>Berberis harrisoniana</i>	None	None	G1G2	S1.2	1B.2
Lancaster milk-vetch	<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Threatened	None	G4T2	S1	1B.1
Lane Mountain milk-vetch	<i>Astragalus jaegerianus</i>	None	None	G1	S1.1	1B.1
Las Animas colubrina	<i>Colubrina californica</i>	None	None	G4	S2S3.3	2.3

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Latimer's woodland-gilia	<i>Saltugilia latimeri</i>	None	None	G2	S2.2	1B.2
Lemon lily	<i>Lilium parryi</i>	None	None	G3	S2.1	1B.2
Limestone beardtongue	<i>Penstemon calcareus</i>	None	None	G2	S2.3	1B.3
Limestone daisy	<i>Erigeron uncialis</i> var. <i>uncialis</i>	Threatened	None	G3G4T2	S2.2	1B.2
Little purple monkeyflower	<i>Mimulus purpureus</i>	None	None	G2	S2.2	1B.2
Little San Bernardino Mtns. linanthus	<i>Linanthus maculatus</i>	None	None	G1	S1.2	1B.2
Little-leaf elephant tree	<i>Bursera microphylla</i>	None	None	G4	S2.3	2.3
Lobed ground-cherry	<i>Physalis lobata</i>	None	None	G5	S1.3?	2.3
Long-stem evening-primrose	<i>Oenothera longissima</i>	None	None	G4	S1.2	2.2
Los Angeles sunflower	<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	None	None	G5TH	SH	1A
Madera leptosiphon	<i>Leptosiphon serrulatus</i>	None	None	G1?	S1?	1B.2
Male fern	<i>Dryopteris filix-mas</i>	None	None	G5	S1.3	2.3
Many-flowered schkuhria	<i>Schkuhria multiflora</i> var. <i>multiflora</i>	None	None	G5T5	S1.3	2.3
Mecca-aster	<i>Xylorhiza cognata</i>	None	None	G2	S2.2	1B.2
Mesquite neststraw	<i>Stylocline sonorensis</i>	None	None	G3G5	SX	1A
Mingan moonwort	<i>Botrychium minganense</i>	None	None	G4	S1.2	2.2
Mojave Desert plum	<i>Prunus eremophila</i>	None	None	G1	S1.2	1B.2
Mojave milkweed	<i>Asclepias nyctaginifolia</i>	None	None	G4G5	S1	2.1
Mojave monkeyflower	<i>Mimulus mohavensis</i>	None	None	G2	S2.2	1B.2
Mojave tarplant	<i>Deinandra mohavensis</i>	None	Endangered	G2	S2.3	1B.3
Mormon needle grass	<i>Achnatherum aridum</i>	Endangered	None	G5	S2?	2.3
Mountain Springs bush lupine	<i>Lupinus excubitus</i> var. <i>medius</i>	None	None	G4T2T3	S2.3	1B.3
Mt. Gleason paintbrush	<i>Castilleja gleasonii</i>	Threatened	Rare	G2Q	S2.2	1B.2

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Mud nama	<i>Nama stenocarpum</i>	None	None	G4G5	S1S2	2.2
Muir's tarplant	<i>Carlquistia muirii</i>	None	None	G2	S2.3	1B.3
Munz's cholla	<i>Opuntia munzii</i>	None	None	G3	S1.2	1B.3
Narrow-leaved cottonwood	<i>Populus angustifolia</i>	None	None	G5	S2S3	2.2
Narrow-leaved psorothamnus	<i>Psorothamnus fremontii</i> var. <i>attenuatus</i>	None	None	G5T3?	S2.3	2.3
Narrow-leaved yerba santa	<i>Eriodictyon angustifolium</i>	None	None	G5	S2.3	2.3
Nevada onion	<i>Allium nevadense</i>	None	None	G4	S1.3	2.3
Nevada oryctes	<i>Oryctes nevadensis</i>	None	None	G2G3	S1.1	2.1
Nevin's barberry	<i>Berberis nevinii</i>	None	Endangered	G2	S2.2	1B.1
New Mexico locust	<i>Robinia neomexicana</i>	None	None	G4	S1.3	2.3
Nine Mile Canyon phacelia	<i>Phacelia novemmillensis</i>	None	None	G2	S2.2	1B.2
Nine-awned pappus grass	<i>Enneapogon desvauxii</i>	None	None	G5	S2	2.2
Notch-beaked milkwort	<i>Polygala heterorhyncha</i>	None	None	G3	S1.3	2.3
Orcutt's linanthus	<i>Linanthus orcuttii</i>	None	None	G4	S2.3	1B.3
Orcutt's woody-aster	<i>Xylorhiza orcuttii</i>	None	None	G2G3	S2.2	1B.2
Orocopia sage	<i>Salvia greatae</i>	None	None	G2	S2.2	1B.3
Owens Peak lomatium	<i>Lomatium shevockii</i>	None	None	G1	S1.3	1B.3
Owens Valley checkerbloom	<i>Sidalcea covillei</i>	None	Endangered	G3	S3.1	1B.1
Pale-yellow layia	<i>Layia heterotricha</i>	None	None	G2G3	S2S3.1	1B.1
Palmer's mariposa-lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>	None	None	G2T2	S2.1	1B.2
Panamint daisy	<i>Enceliopsis covillei</i>	None	None	G3	S3.3	1B.2
Parish's alkali grass	<i>Puccinellia parishii</i>	None	None	G2G3	S1	1B.1
Parish's alumroot	<i>Heuchera parishii</i>	None	None	G2	S2.3	1B.3
Parish's brittlescale	<i>Atriplex parishii</i>	None	None	G1G2	S1.1	1B.1

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Parish's club-cholla	<i>Grusonia parishii</i>	Threatened	None	G3G4	S2	2.2
Parish's daisy	<i>Erigeron parishii</i>	None	None	G2	S2.1	1B.1
Parish's desert-thorn	<i>Lycium parishii</i>	None	None	G3?	S2S3	2.3
Parish's phacelia	<i>Phacelia parishii</i>	None	None	G2G3	S1.1	1B.1
Parish's popcorn-flower	<i>Plagiobothrys parishii</i>	None	None	G1	S1.1	1B.1
Parish's rock-cress	<i>Arabis parishii</i>	None	None	G2	S2.1	1B.2
Parish's yampah	<i>Perideridia parishii</i> ssp. <i>parishii</i>	None	None	G4T3T4	S2.2?	2.2
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	Candidate	None	G3T2	S2	1B.1
Parry's spurge	<i>Chamaesyce parryi</i>	None	None	G5	S1.3	2.3
Peirson's lupine	<i>Lupinus peirsonii</i>	None	None	G2	S2.3	1B.3
Peirson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	None	Endangered	G3G4T2	S2.2	1B.2
Peirson's pincushion	<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>	None	None	G5T1	S1.3	1B.3
Pink fairy-duster	<i>Calliandra eriophylla</i>	None	None	G5	S2.3	2.3
Pinyon rock-cress	<i>Arabis dispar</i>	None	None	G3	S2.3	2.3
Piute cypress	<i>Callitropsis nevadensis</i>	None	None	G2	S2.2	1B.2
Piute Mountains jewel-flower	<i>Streptanthus cordatus</i> var. <i>piutensis</i>	None	None	G5T1	S1.2	1B.2
Piute Mountains navarretia	<i>Navarretia setiloba</i>	None	None	G1	S1.1	1B.1
Plains bee balm	<i>Monarda pectinata</i>	None	None	G5	S1.3	2.3
Plains flax	<i>Linum puberulum</i>	None	None	G5	S1S2.3	2.3
Plains stone seed	<i>Lithospermum incisum</i>	None	None	G5	S1.3	2.3
Playa milk-vetch	<i>Astragalus allochrous</i> var. <i>playanus</i>	Endangered	None	G4T3?	S1.2	2.2
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	None	None	G3	S3.2	1B.2
Plummer's woodsia	<i>Woodsia plummerae</i>	None	None	G5	S1.3?	2.3

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Polished blazing star	<i>Mentzelia polita</i>	None	None	G2	S1.2	1B.2
Preuss' milk-vetch	<i>Astragalus preussii</i> var. <i>preussii</i>	None	None	G4T4	S1.2	2.3
Providence Mountains lotus	<i>Lotus argyraeus</i> var. <i>notitius</i>	None	None	G4?T1	S1.3	1B.3
Pungent glossopetalon	<i>Glossopetalon pungens</i>	None	None	G2G3	S1.3	1B.2
Purple stemodia	<i>Stemodia durantifolia</i>	None	None	G5	S2.1?	2.1
Purple-nerve cymopterus	<i>Cymopterus multinervatus</i>	None	None	G5	S2	2.2
Pygmy lotus	<i>Lotus haydonii</i>	None	None	G3	S2.3?	1B.3
Pygmy pussypaws	<i>Calyptridium pygmaeum</i>	None	None	G2	S2	1B.2
Recurved larkspur	<i>Delphinium recurvatum</i>	None	None	G2	S2.2	1B.2
Red four o'clock	<i>Mirabilis coccinea</i>	None	None	G5	S2.3	2.3
Red Rock poppy	<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	None	None	G5T2	S2.2	1B.2
Red Rock tarplant	<i>Deinandra arida</i>	None	Rare	G1	S1.2	1B.2
Ripley's aliciella	<i>Aliciella ripleyi</i>	None	None	G3	S1.3	2.3
Robison's monardella	<i>Monardella robisonii</i>	None	None	G2	S2.3	1B.3
Robust Hoffmann's buckwheat	<i>Eriogonum hoffmannii</i> var. <i>robustius</i>	None	None	G3T2	S2.3	1B.3
Rock Creek broomrape	<i>Orobanche valida</i> ssp. <i>valida</i>	None	None	G3T2	S2	1B.2
Rosy two-toned beardtongue	<i>Penstemon bicolor</i> ssp. <i>roseus</i>	None	None	G3T3Q	S1	1B.1
Rough menodora	<i>Menodora scabra</i>	None	None	G5	S2.3	2.3
Round-leaved filaree	<i>California macrophylla</i>	None	None	G3	S3.1	1B.1
Rusby's desert-mallow	<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	None	None	G4T2	S2	1B.2
Sagebrush loeflingia	<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	None	None	G5T2T3	S2.2	2.2
Saguaro	<i>Carnegiea gigantea</i>	None	None	G5	S1.2	2.2

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Salt Spring checkerbloom	<i>Sidalcea neomexicana</i>	None	None	G4?	S2S3	2.2
San Antonio milk-vetch	<i>Astragalus lentiginosus</i> <i>var. antonius</i>	Endangered	None	G5T1	S1?	1B.3
San Bernardino aster	<i>Symphyotrichum</i> <i>defoliatum</i>	None	None	G3	S3.2	1B.2
San Bernardino blue grass	<i>Poa atropurpurea</i>	None	None	G2	S2.2	1B.2
San Bernardino Mountains bladderpod	<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	None	None	G5T1	S1	1B.1
San Bernardino Mountains dudleya	<i>Dudleya abramsii</i> ssp. <i>affinis</i>	None	None	G3T2	S2.2	1B.2
San Bernardino Mountains monkeyflower	<i>Mimulus exiguus</i>	None	None	G2	S2.2	1B.2
San Bernardino Mountains owl's-clover	<i>Castilleja lasiorhyncha</i>	None	None	G2	S2.2	1B.2
San Bernardino ragwort	<i>Packera bernardina</i>	None	None	G2	S2.2	1B.2
San Felipe monardella	<i>Monardella nana</i> ssp. <i>leptosiphon</i>	None	None	G4G5T2	S2.2	1B.2
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	None	Endangered	G2T1	S1.1	1B.1
San Gabriel linanthus	<i>Linanthus concinnus</i>	None	None	G2?	S2?	1B.2
San Jacinto linanthus	<i>Linanthus jaegeri</i>	None	None	G2	S2.2	1B.2
San Jacinto Mountains bedstraw	<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	None	None	G5T1T2	S1S2	1B.3
Sand evening-primrose	<i>Camissonia arenaria</i>	None	None	G4?	S2	2.2
Sand food	<i>Pholisma sonorae</i>	None	None	G2	S1.2	1B.2
Sanicle cymopterus	<i>Cymopterus ripleyi</i> var. <i>saniculoides</i>	None	None	G3G4T3Q	S1.2	1B.2
Santa Ana River woollystar	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	None	Endangered	G4T1	S1	1B.1

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Santa Rosa Mountains leptosiphon	<i>Leptosiphon floribundus ssp. hallii</i>	None	None	G4T1	S1	1B.3
Scalloped moonwort	<i>Botrychium crenulatum</i>	None	None	G3	S2.2	2.2
Scaly cloak fern	<i>Astrolepis cochisensis ssp. cochisensis</i>	Endangered	None	G5?T4	S2.3	2.3
Scrub lotus	<i>Lotus argyraeus var. multicaulis</i>	None	None	G4?T1	S1.3	1B.3
Shaggy-haired alumroot	<i>Heuchera hirsutissima</i>	None	None	G2	S2.3	1B.3
Shevock's bristle moss	<i>Orthotrichum shevockii</i>	None	None	G2	S2	1B.3
Shockley's rock-cress	<i>Arabis shockleyi</i>	None	None	G3	S2.2	2.2
Short-joint beavertail	<i>Opuntia basilaris var. brachyclada</i>	None	None	G5T3	S3	1B.2
Short-sepaled lewisia	<i>Lewisia brachycalyx</i>	Endangered	None	G4G5	S3.2	2.2
Silver-haired ivesia	<i>Ivesia argyrocoma</i>	None	None	G2	S2.2	1B.2
Singlewhorl burrobrush	<i>Ambrosia monogyra</i>	None	None	G5	S2.2	2.2
Sky-blue phacelia	<i>Phacelia coerulea</i>	None	None	G5	S1.3	2.3
Slender cottonheads	<i>Nemacaulis denudata var. gracilis</i>	None	None	G3G4T3?	S2S3	2.2
Slender mariposa-lily	<i>Calochortus clavatus var. gracilis</i>	None	None	G4T2	S2	1B.2
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	None	Endangered	G1	S1	1B.1
Slender-petaled thelypodium	<i>Thelypodium stenopetalum</i>	None	Endangered	G1	S1.1	1B.1
Slender-spined all-thorn	<i>Koeberlinia spinosa ssp. tenuispina</i>	None	None	G4T4	S2.2	2.2
Slender-stem bean	<i>Phaseolus filiformis</i>	None	None	G5	S1	2.1
Small-flowered androstephium	<i>Androstephium breviflorum</i>	None	None	G5	S1.2	2.2

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Small-flowered bird's-beak	<i>Cordylanthus parviflorus</i>	None	None	G4G5	S1S2	2.3
Small-flowered rice grass	<i>Piptatherum micranthum</i>	None	None	G5	S2S3	2.3
Small-flowered sand-verbena	<i>Tripterocalyx micranthus</i>	Threatened	None	G5	S1.3	2.3
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	None	None	G3G4T2	S2.1	1B.1
Sodaville milk-vetch	<i>Astragalus lentiginosus</i> var. <i>sesquimetralis</i>	Endangered	Endangered	G5T1	S1.1	1B.1
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Endangered	None	G5T3	S2.2?	2.2
Southern alpine buckwheat	<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	None	None	G4T2	S2.3	1B.3
Southern California rock draba	<i>Draba corrugata</i> var. <i>saxosa</i>	Endangered	None	G2T2	S2.3	1B.3
southern jewel-flower	<i>Streptanthus campestris</i>	None	None	G2	S2.3	1B.3
Southern mountain buckwheat	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	None	None	G4T2	S2.2	1B.2
Southern mountains skullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	None	None	G4T2	S2.2?	1B.2
Southwestern false cloak-fern	<i>Argyrochosma limitanea</i> var. <i>limitanea</i>	Threatened	None	G4G5T3T4	S2.3	2.3
Spanish Needle onion	<i>Allium shevockii</i>	None	None	G1	S1.3	1B.3
Spear-leaf matelea	<i>Matelea parvifolia</i>	None	None	G5?	S2.2	2.3
Spine-noded milk vetch	<i>Peteria thompsoniae</i>	None	None	G4	S1.3?	2.3
Spiny cliff-brake	<i>Pellaea truncata</i>	None	None	G5	S2	2.3
Spjut's bristle moss	<i>Orthotrichum spjutii</i>	None	None	G1	S1	1B.3
Stephens' beardtongue	<i>Penstemon stephensii</i>	None	None	G2	S2.3	1B.3
Tahquitz ivesia	<i>Ivesia callida</i>	None	Rare	G1	S1.3	1B.3
Tecopa bird's-beak	<i>Cordylanthus tecopensis</i>	None	None	G2	S1.2	1B.2

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Tehachapi buckwheat	<i>Eriogonum callistum</i>	None	None	G1	S1	1B.1
Tehachapi monardella	<i>Monardella linoides</i> ssp. <i>oblonga</i>	None	None	G5T2	S2.2	1B.3
Thompson's beardtongue	<i>Penstemon thompsoniae</i>	None	None	G4	S1.3	2.3
Thorne's buckwheat	<i>Eriogonum thornei</i>	Endangered	Endangered	G1	S1.1	1B.2
Thorny milkwort	<i>Polygala acanthoclada</i>	None	None	G4	S2.3	2.3
Three-awned grama	<i>Bouteloua trifida</i>	None	None	G4G5	S2?	2.3
Tidestrom's milk-vetch	<i>Astragalus tidestromii</i>	None	None	G4G5	S2	2.2
Torrey's blazing star	<i>Mentzelia torreyi</i>	None	None	G4	S2.2	2.2
Tough muhly	<i>Muhlenbergia arsenei</i>	None	None	G5	S1S2	2.3
Tracy's eriastrum	<i>Eriastrum tracyi</i>	None	Rare	G1Q	S1.1	1B.2
Triple-ribbed milk-vetch	<i>Astragalus tricarinatus</i>	None	None	G1	S1.2	1B.2
Utah beardtongue	<i>Penstemon utahensis</i>	None	None	G4	S2.3	2.3
Utah daisy	<i>Erigeron utahensis</i>	None	None	G4	S1.3	2.3
Utah glasswort	<i>Sarcocornia utahensis</i>	None	None	G4?	S1.2	2.2
Utah monkeyflower	<i>Mimulus glabratus</i> ssp. <i>utahensis</i>	None	None	G5T5?	S1.1	2.1
Violet twining snapdragon	<i>Maurandya antirrhiniflora</i> ssp. <i>antirrhiniflora</i>	None	None	G4G5T3?	S1.3	2.3
Viviparous foxtail cactus	<i>Coryphantha vivipara</i> var. <i>rosea</i>	None	None	G5T3	S2.2	2.2
Wand-like fleabane daisy	<i>Erigeron oxyphyllus</i>	None	None	G2G4	S1.3	2.3
White bear poppy	<i>Arctomecon merriamii</i>	None	None	G3	S2.2	2.2
White-bracted spineflower	<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	None	None	G4T2	S2.2	1B.2
White-margined beardtongue	<i>Penstemon albomarginatus</i>	None	None	G2	S1	1B.1
Wiggins' croton	<i>Croton wigginsii</i>	None	Rare	G2G3	S1.2	2.2
Wing-seed blazing star	<i>Mentzelia pterosperma</i>	None	None	G4	S1.2	2.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Wolftail	<i>Muhlenbergia alopecuroides</i>	None	None	G5	S1?	2.2
Woolly mountain-parsley	<i>Oreonana vestita</i>	None	None	G3	S3.3	1B.3
Wooton's lace fern	<i>Cheilanthes wootonii</i>	None	None	G5	S1.3	2.3
Wright's bedstraw	<i>Galium wrightii</i>	None	None	G3G4	S1.2	2.3
Yellow ivesia	<i>Ivesia arizonica</i> var. <i>arizonica</i>	None	None	G3G4T3	S1	2.3
Yucaipa onion	<i>Allium marvinii</i>	None	None	G1	S1.1	1B.1

¹ Regulatory Status

Federal = federally listed as endangered or threatened or candidate for listing

State = state-listed as endangered, threatened, or rare

G-Rank = California Natural Diversity Database (CNDDDB) Element, Global Ranking:

G1 = Less than 6 viable element occurrences OR less than 1,000 individuals OR less than 2,000 acres

G2 = 6-20 element occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres

G3 = 21-80 element occurrences OR 3,000-10,000 individuals OR 10,000-50,000 acres

G4 = Apparently secure, but some threat or somewhat narrow habitat

G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world

Note: Subspecies receive a T-rank attached to the G-rank; the G-rank then refers to the entire species, whereas the T-rank refers to the subspecies or variety.

S-Rank = CNDDDB Element, State Ranking:

S1= Less than 6 occurrences OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = 6-20 element occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = 21-80 element occurrences OR 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently secure, but some threat or somewhat narrow habitat (no threat rank)

S5 = Population or stand demonstrably secure to ineradicable due to being commonly found in California (no threat rank)

CNPS:

1B = CNPS List 1B – Rare, threatened, or endangered in California and elsewhere

0.1: Seriously endangered in California

0.2: Fairly endangered in California

0.3: Not very endangered in California

2 = CNPS List 2 – Rare threatened, or endangered in California, but more common elsewhere

0.1: Seriously endangered in California

0.2: Fairly endangered in California

Appendix E

CNPS List 1B & 2 Species most likely to be affected by renewable energy projects

This list of high priority “at risk” species includes rare plants with occurrences documented by the California Natural Diversity Data Base that fell within a proposed project footprint and/or within a BLM Solar Energy Study Area (SESA) as of June, 2010. GIS layers included in the analysis:

- BLM renewable energy project layers
- DFG renewable energy project layers
- RETI renewable energy project layers
- RETI transmission line layers
- RETI substation layer
- BLM SESA layer
- REAT RESA layer

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Abert's sanvitalia	<i>Sanvitalia abertii</i>	None	None	G5	S1S2	2.2
Abrams' spurge	<i>Chamaesyce abramsiana</i>	None	None	G4	S1.2	2.2
Algodones Dunes sunflower	<i>Helianthus niveus ssp. tephrodes</i>	None	Endangered	G4T2	S1.2	1B.2
Alkali mariposa-lily	<i>Calochortus striatus</i>	None	None	G2	S2	1B.2
Angel trumpets	<i>Acleisanthes longiflora</i>	None	None	G5	S1.3	2.3
Annual rock-nettle	<i>Eucnide rupestris</i>	None	None	G3	S1	2.2
Arizona spurge	<i>Chamaesyce arizonica</i>	None	None	G5	S1.3	2.3

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Ash-gray paintbrush	<i>Castilleja cinerea</i>	None	None	G2	S2.2	1B.2
Aven Nelson's phacelia	<i>Phacelia anelsonii</i>	None	None	G2G3	S2.3?	2.3
Baja navarretia	<i>Navarretia peninsularis</i>	None	None	G3?	S2.2	1B.2
Bald daisy	<i>Erigeron calvus</i>	None	None	G1Q	S1.1	1B.1
Baldwin Lake linanthus	<i>Linanthus killipii</i>	None	None	G2	S2.1	1B.2
Barneby's phacelia	<i>Phacelia barnebyana</i>	None	None	G3?	S2.3	2.3
Barstow woolly sunflower	<i>Eriophyllum mohavense</i>	None	None	G2	S2.2	1B.2
Bear Lake buckwheat	<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	None	None	G5T1	S1.1	1B.1
Bear Valley pyrrocoma	<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	None	None	G5T2	S2.2	1B.2
Big Bear Valley milk- vetch	<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	None	None	G5T1	S1?	1B.2
Big Bear Valley phlox	<i>Phlox dolichantha</i>	None	None	G2	S2.2	1B.2
Big Bear Valley sandwort	<i>Arenaria ursina</i>	None	None	G2	S2.1	1B.2
Big Bear Valley woollypod	<i>Astragalus leucolobus</i>	None	None	G2	S2.2	1B.2
Bird-foot checkerbloom	<i>Sidalcea pedata</i>	None	Endangered	G1	S1.1	1B.1
Bitter hymenoxys	<i>Hymenoxys odorata</i>	None	None	G5	S2	2
Black bog-rush	<i>Schoenus nigricans</i>	None	None	G4	S2.2	2.2
Booth's evening-primrose	<i>Camissonia boothii</i> ssp. <i>boothii</i>	None	None	G5T4	S2.3	2.3
Booth's hairy evening- primrose	<i>Camissonia boothii</i> ssp. <i>intermedia</i>	None	None	G5T3T4	S2.3	2.3
Brown fox sedge	<i>Carex vulpinoidea</i>	None	None	G5	S2.2	2.2
Brown turbans	<i>Malperia tenuis</i>	None	None	G4?	S1.3	2.3
Calico monkeyflower	<i>Mimulus pictus</i>	None	None	G2	S2.2	1B.2
California dandelion	<i>Taraxacum californicum</i>	None	None	G2	S2.1	1B.1
California satintail	<i>Imperata brevifolia</i>	None	None	G2	S2.1	2.1
Chambers' physaria	<i>Physaria chambersii</i>	None	None	G4	S2.3	2.3

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Chaparral sand-verbena	<i>Abronia villosa</i> var. <i>aurita</i>	Endangered	None	G5T3T4	S2.1	1B.1
Charlotte's phacelia	<i>Phacelia nashiana</i>	None	None	G3	S3.2	1B.2
Clark Mountain spurge	<i>Euphorbia exstipulata</i> var. <i>exstipulata</i>	None	None	G5T5?	S1.3	2.1
Cliff spurge	<i>Euphorbia misera</i>	None	None	G5	S3.2	2.2
Coachella Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	None	None	G5T2	S2.1	1B.2
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	None	None	G4T3	S2.1	1B.1
Coves' cassia	<i>Senna covesii</i>	None	None	G5?	S2.2	2.2
Creamy blazing star	<i>Mentzelia tridentata</i>	None	None	G2	S2.3	1B.3
Cushenbury buckwheat	<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	None	None	G5T1	S1.1	1B.1
Cushenbury milk-vetch	<i>Astragalus albens</i>	None	None	G1	S1.1	1B.1
Cushenbury oxytheca	<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	None	None	G4?T1	S1.1	1B.1
Darlington's blazing star	<i>Mentzelia puberula</i>	None	None	G4	S2	2.2
Desert cymopterus	<i>Cymopterus deserticola</i>	None	None	G3	S3.2	1B.2
Desert pincushion	<i>Coryphantha chlorantha</i>	None	None	G2G3	S1	2.1
Desert sand-parsley	<i>Ammoselinum giganteum</i>	None	None	G2G3	SH	2.3
Desert spike-moss	<i>Selaginella eremophila</i>	None	None	G4	S2.2?	2.2
Dwarf germander	<i>Teucrium cubense</i> ssp. <i>depressum</i>	Endangered	None	G4G5T3T4	S2	2.2
Emory's crucifixion-thorn	<i>Castela emoryi</i>	None	None	G3	S2.2	2.3
Ewan's cinquefoil	<i>Potentilla glandulosa</i> ssp. <i>ewanii</i>	None	None	G5T1	S1	1B.3
Flat-seeded spurge	<i>Chamaesyce platysperma</i>	None	None	G3	S1.2?	1B.2
Foxtail thelypodium	<i>Thelypodium integrifolium</i> ssp. <i>complanatum</i>	None	None	G5T5	S2.2	2.2
Frosted mint	<i>Poliomintha incana</i>	Endangered	None	G5	SH	1A

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Geyer's milk-vetch	<i>Astragalus geyeri</i> var. <i>geyeri</i>	None	None	G4T4	S2.2	2.2
Giant Spanish-needle	<i>Palafoxia arida</i> var. <i>gigantea</i>	None	None	G5T3	S1.2	1B.3
Gilman's cymopterus	<i>Cymopterus gilmanii</i>	None	None	G3?	S2.2	2.3
Glandular ditaxis	<i>Ditaxis claryana</i>	None	None	G4G5	S1S2	2.2
Golden violet	<i>Viola aurea</i>	None	None	G3G4	S2S3	2.2
Hairy stickleaf	<i>Mentzelia hirsutissima</i>	None	None	G3?	S2S3	2.3
Harwood's eriastrum	<i>Eriastrum harwoodii</i>	Endangered	None	G2	S2	1B.2
Harwood's milk-vetch	<i>Astragalus insularis</i> var. <i>harwoodii</i>	None	None	G5T3	S2.2?	2.2
Hillman's silverscale	<i>Atriplex argentea</i> var. <i>hillmanii</i>	None	None	G5T3?	S2.2	2.2
Horn's milk-vetch	<i>Astragalus hornii</i> var. <i>hornii</i>	None	None	G4G5T2T3	S2S3.1	1B.1
Howe's hedgehog cactus	<i>Echinocereus engelmannii</i> var. <i>howei</i>	None	None	G5T1	S1.1	1B.1
Inyo County star-tulip	<i>Calochortus excavatus</i>	None	None	G3	S3.1	1B.1
Jackass-clover	<i>Wislizenia refracta</i> ssp. <i>refracta</i>	None	None	G5T5?	S1.2?	2.2
Kelso Creek monkeyflower	<i>Mimulus shevockii</i>	None	None	G2	S2	1B.2
Kern buckwheat	<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Threatened	None	G4T1	S1.1	1B.1
Lancaster milk-vetch	<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Threatened	None	G4T2	S1	1B.1
Lane Mountain milk-vetch	<i>Astragalus jaegerianus</i>	None	None	G1	S1.1	1B.1
Las Animas colubrina	<i>Colubrina californica</i>	None	None	G4	S2S3.3	2.3
Latimer's woodland-gilia	<i>Saltugilia latimeri</i>	None	None	G2	S2.2	1B.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Lemon lily	<i>Lilium parryi</i>	None	None	G3	S2.1	1B.2
Little purple monkeyflower	<i>Mimulus purpureus</i>	None	None	G2	S2.2	1B.2
Little San Bernardino Mtns. linanthus	<i>Linanthus maculatus</i>	None	None	G1	S1.2	1B.2
Madera leptosiphon	<i>Leptosiphon serrulatus</i>	None	None	G1?	S1?	1B.2
Male fern	<i>Dryopteris filix-mas</i>	None	None	G5	S1.3	2.3
Mecca-aster	<i>Xylorhiza cognata</i>	None	None	G2	S2.2	1B.2
Mesquite neststraw	<i>Stylocline sonorensis</i>	None	None	G3G5	SX	1A
Mojave milkweed	<i>Asclepias nyctaginifolia</i>	None	None	G4G5	S1	2.1
Mojave monkeyflower	<i>Mimulus mohavensis</i>	None	None	G2	S2.2	1B.2
Mojave tarplant	<i>Deinandra mohavensis</i>	None	Endangered	G2	S2.3	1B.3
Mormon needle grass	<i>Achnatherum aridum</i>	Endangered	None	G5	S2?	2.3
Munz's cholla	<i>Opuntia munzii</i>	None	None	G3	S1.2	1B.3
Nevada onion	<i>Allium nevadense</i>	None	None	G4	S1.3	2.3
Nevada oryctes	<i>Oryctes nevadensis</i>	None	None	G2G3	S1.1	2.1
Nevin's barberry	<i>Berberis nevinii</i>	None	Endangered	G2	S2.2	1B.1
Nine-awned pappus grass	<i>Enneapogon desvauxii</i>	None	None	G5	S2	2.2
Orcutt's woody-aster	<i>Xylorhiza orcuttii</i>	None	None	G2G3	S2.2	1B.2
Orocopia sage	<i>Salvia greatae</i>	None	None	G2	S2.2	1B.3
Owens Valley checkerbloom	<i>Sidalcea covillei</i>	None	Endangered	G3	S3.1	1B.1
Pale-yellow layia	<i>Layia heterotricha</i>	None	None	G2G3	S2S3.1	1B.1
Palmer's mariposa-lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>	None	None	G2T2	S2.1	1B.2
Parish's alumroot	<i>Heuchera parishii</i>	None	None	G2	S2.3	1B.3
Parish's brittlescale	<i>Atriplex parishii</i>	None	None	G1G2	S1.1	1B.1
Parish's checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	None	Rare	G3T1	S1.2	1B.2
Parish's club-cholla	<i>Grusonia parishii</i>	Threatened	None	G3G4	S2	2.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Parish's daisy	<i>Erigeron parishii</i>	None	None	G2	S2.1	1B.1
Parish's desert-thorn	<i>Lycium parishii</i>	None	None	G3?	S2S3	2.3
Parish's phacelia	<i>Phacelia parishii</i>	None	None	G2G3	S1.1	1B.1
Parish's popcorn-flower	<i>Plagiobothrys parishii</i>	None	None	G1	S1.1	1B.1
Parish's rock-cress	<i>Arabis parishii</i>	None	None	G2	S2.1	1B.2
Parish's yampah	<i>Perideridia parishii ssp. parishii</i>	None	None	G4T3T4	S2.2?	2.2
Parry's spineflower	<i>Chorizanthe parryi var. parryi</i>	Candidate	None	G3T2	S2	1B.1
Peirson's milk-vetch	<i>Astragalus magdalenae var. peirsonii</i>	None	Endangered	G3G4T2	S2.2	1B.2
Peirson's pincushion	<i>Chaenactis carphoclinia var. peirsonii</i>	None	None	G5T1	S1.3	1B.3
Pink fairy-duster	<i>Calliandra eriophylla</i>	None	None	G5	S2.3	2.3
Pinyon rock-cress	<i>Arabis dispar</i>	None	None	G3	S2.3	2.3
Piute cypress	<i>Callitropsis nevadensis</i>	None	None	G2	S2.2	1B.2
Piute Mountains jewel-flower	<i>Streptanthus cordatus var. piutensis</i>	None	None	G5T1	S1.2	1B.2
Piute Mountains navarretia	<i>Navarretia setiloba</i>	None	None	G1	S1.1	1B.1
Plains bee balm	<i>Monarda pectinata</i>	None	None	G5	S1.3	2.3
Plains flax	<i>Linum puberulum</i>	None	None	G5	S1S2.3	2.3
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	None	None	G3	S3.2	1B.2
Purple stemodia	<i>Stemodia durantifolia</i>	None	None	G5	S2.1?	2.1
Purple-nerve cymopterus	<i>Cymopterus multinervatus</i>	None	None	G5	S2	2.2
Pygmy pussypaws	<i>Calyptridium pygmaeum</i>	None	None	G2	S2	1B.2
Recurved larkspur	<i>Delphinium recurvatum</i>	None	None	G2	S2.2	1B.2
Red four o'clock	<i>Mirabilis coccinea</i>	None	None	G5	S2.3	2.3
Red Rock poppy	<i>Eschscholzia minutiflora ssp. twisselmannii</i>	None	None	G5T2	S2.2	1B.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Red Rock tarplant	<i>Deinandra arida</i>	None	Rare	G1	S1.2	1B.2
Ripley's aliciella	<i>Aliciella ripleyi</i>	None	None	G3	S1.3	2.3
Rosy two-toned beardtongue	<i>Penstemon bicolor</i> ssp. <i>roseus</i>	None	None	G3T3Q	S1	1B.1
Round-leaved filaree	<i>California macrophylla</i>	None	None	G3	S3.1	1B.1
Rusby's desert-mallow	<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	None	None	G4T2	S2	1B.2
Sagebrush loeflingia	<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	None	None	G5T2T3	S2.2	2.2
San Bernardino aster	<i>Symphotrichum defoliatum</i>	None	None	G3	S3.2	1B.2
San Bernardino blue grass	<i>Poa atropurpurea</i>	None	None	G2	S2.2	1B.2
San Bernardino gilia	<i>Gilia leptantha</i> ssp. <i>leptantha</i>	None	None	G4T2	S2.3	1B.3
San Bernardino Mountains bladderpod	<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	None	None	G5T1	S1	1B.1
San Bernardino Mountains dudleya	<i>Dudleya abramsii</i> ssp. <i>affinis</i>	None	None	G3T2	S2.2	1B.2
San Bernardino Mountains monkeyflower	<i>Mimulus exiguus</i>	None	None	G2	S2.2	1B.2
San Bernardino Mountains owl's-clover	<i>Castilleja lasiorhyncha</i>	None	None	G2	S2.2	1B.2
San Bernardino ragwort	<i>Packera bernardina</i>	None	None	G2	S2.2	1B.2
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	None	Endangered	G2T1	S1.1	1B.1
Sand evening-primrose	<i>Camissonia arenaria</i>	None	None	G4?	S2	2.2
Sand food	<i>Pholisma sonorae</i>	None	None	G2	S1.2	1B.2
Sanicle cymopterus	<i>Cymopterus ripleyi</i> var. <i>saniculoides</i>	None	None	G3G4T3Q	S1.2	1B.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Santa Ana River woollystar	<i>Eriastrum densifolium ssp. sanctorum</i>	None	Endangered	G4T1	S1	1B.1
Scalloped moonwort	<i>Botrychium crenulatum</i>	None	None	G3	S2.2	2.2
Scrub lotus	<i>Lotus argyraeus var. multicaulis</i>	None	None	G4?T1	S1.3	1B.3
Shockley's rock-cress	<i>Arabis shockleyi</i>	None	None	G3	S2.2	2.2
Short-joint beavertail	<i>Opuntia basilaris var. brachyclada</i>	None	None	G5T3	S3	1B.2
Short-sepaed lewisia	<i>Lewisia brachycalyx</i>	Endangered	None	G4G5	S3.2	2.2
Silver-haired ivesia	<i>Ivesia argyrocoma</i>	None	None	G2	S2.2	1B.2
Singlewhorl burrobrush	<i>Ambrosia monogyra</i>	None	None	G5	S2.2	2.2
Sky-blue phacelia	<i>Phacelia coerulea</i>	None	None	G5	S1.3	2.3
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	None	Endangered	G1	S1	1B.1
Slender-petaled thelypodium	<i>Thelypodium stenopetalum</i>	None	Endangered	G1	S1.1	1B.1
Slender-stem bean	<i>Phaseolus filiformis</i>	None	None	G5	S1	2.1
Small-flowered androstephium	<i>Androstephium breviflorum</i>	None	None	G5	S1.2	2.2
southern jewel-flower	<i>Streptanthus campestris</i>	None	None	G2	S2.3	1B.3
Southern mountain buckwheat	<i>Eriogonum kennedyi var. austromontanum</i>	None	None	G4T2	S2.2	1B.2
Southern mountains skullcap	<i>Scutellaria bolanderi ssp. austromontana</i>	None	None	G4T2	S2.2?	1B.2
Spanish needle onion	<i>Allium shevockii</i>	None	None	G1	S1.3	1B.3
Tehachapi buckwheat	<i>Eriogonum callistum</i>	None	None	G1	S1	1B.1
Tehachapi monardella	<i>Monardella linoides ssp. oblonga</i>	None	None	G5T2	S2.2	1B.3
Thorny milkwort	<i>Polygala acanthoclada</i>	None	None	G4	S2.3	2.3
Tidestrom's milk-vetch	<i>Astragalus tidestromii</i>	None	None	G4G5	S2	2.2

Common Name	Scientific Name	Regulatory Status ¹				
		Federal	State	G-Rank	S-Rank	CNPS
Tough muhly	<i>Muhlenbergia arsenei</i>	None	None	G5	S1S2	2.3
Tracy's eriastrum	<i>Eriastrum tracyi</i>	None	Rare	G1Q	S1.1	1B.2
Triple-ribbed milk-vetch	<i>Astragalus tricarinatus</i>	None	None	G1	S1.2	1B.2
Utah beardtongue	<i>Penstemon utahensis</i>	None	None	G4	S2.3	2.3
Utah glasswort	<i>Sarcocornia utahensis</i>	None	None	G4?	S1.2	2.2
Viviparous foxtail cactus	<i>Coryphantha vivipara</i> var. <i>rosea</i>	None	None	G5T3	S2.2	2.2
Western sedge	<i>Carex occidentalis</i>	None	None	G4	S2S3	2.3
White-bracted spineflower	<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	None	None	G4T2	S2.2	1B.2
White-margined beardtongue	<i>Penstemon albomarginatus</i>	None	None	G2	S1	1B.1
Wiggins' croton	<i>Croton wigginsii</i>	None	Rare	G2G3	S1.2	2.2
Wright's bedstraw	<i>Galium wrightii</i>	None	None	G3G4	S1.2	2.3
Yucaipa onion	<i>Allium marvinii</i>	None	None	G1	S1.1	1B.1

¹ Regulatory Status

Federal = federally listed as endangered or threatened or candidate for listing

State = state-listed as endangered, threatened, or rare

G-Rank = California Natural Diversity Database (CNDDDB) Element, Global Ranking:

G1 = Less than 6 viable element occurrences OR less than 1,000 individuals OR less than 2,000 acres

G2 = 6-20 element occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres

G3 = 21-80 element occurrences OR 3,000-10,000 individuals OR 10,000-50,000 acres

G4 = Apparently secure, but some threat or somewhat narrow habitat

G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world

Note: Subspecies receive a T-rank attached to the G-rank; the G-rank then refers to the entire species, whereas the T-rank refers to the subspecies or variety.

S-Rank = CNDDDB Element, State Ranking:

S1= Less than 6 occurrences OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = 6-20 element occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = 21-80 element occurrences OR 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently secure, but some threat or somewhat narrow habitat (no threat rank)

S5 = Population or stand demonstrably secure to ineradicable due to being commonly found in California (no threat rank)

CNPS:

1B = CNPS List 1B – Rare, threatened, or endangered in California and elsewhere

0.1: Seriously endangered in California

0.2: Fairly endangered in California

0.3: Not very endangered in California

2 = CNPS List 2 – Rare threatened, or endangered in California, but more common elsewhere

0.1: Seriously endangered in California

0.2: Fairly endangered in California

Appendix F

Vegetation Mapping: Overview and Recommendations

Based on the schedule for the draft DRECP to be ready for environmental review in December 2012, a comprehensive vegetation map would need to be completed by December 2011 in order to provide as full a picture of the vegetation community to the DRECP as logistically possible. Prompt funding will be required to initiate the alliance-level mapping and accuracy assessments necessary to create an acceptable DRECP vegetation map in this time frame. If schedule and funding do not allow for creation of a rigorous, accuracy-assessed, alliance-level vegetation map, to be used during DRECP development we recommend either (1) prioritizing such mapping on areas most likely to be affected by energy developments in the near term or (2) creating a mid-scale, interim vegetation map in the near term, as described below.

The current state of vegetation mapping is described in sections below. Different regions of the desert are covered by maps and databases that vary in approach, scale, accuracy, and schedule. We recommend rectifying the situation with a comprehensive, alliance-level vegetation map based on the CDFG mapping protocols as described below. Unfortunately, estimates to create a wall-to-wall, alliance-level vegetation and special features map for the western Mojave region are approximately 18 months once sufficient funding is provided to secure contract mapping, to augment mapping that could be accomplished through CDFG's Vegcamp efforts during the same time (T. Keeler-Wolf, personal communications). Given this is not possible under the DRECP schedule or available funding, vegetation alliance and special feature mapping should be prioritized within currently unmapped regions most likely to be affected by renewable energy developments, such as renewable energy study areas in the Western Mojave west of Barstow and around Owens Lake. Alternatively, a mid-scale, "interim" map could be created in the near term as a compromise that would be an improvement over the current situation, but would not have the fine resolution and accuracy that is ultimately desired.

Purpose of an "Interim" DRECP Map

It is extremely important to describe and map the vegetation types within the plan area, not only for their empirical value, but for translation into habitat modeling, site quality, and other important assessments. While the value of an interim vegetation map to accompany the DRECP process is extremely important, such a provisional map should not be considered the ultimate vegetation product in terms of the complete and accurate representation of all vegetation in the area of study. It lacks several significant components including a complete synoptic revision and simultaneous mapping of the entire area (e.g. it would represent a compilation of new and existing information with minor reformatting to allow for standardized representation and interpretation). It lacks a rigorous accuracy assessment, and thus can not be verified as reliable in all aspects of its attributes or spatial representation.

However, the map should be sufficient to accomplish several important tasks. We expect the primary purpose of this map will be to display significant natural resource patterns not previously brought to light. This map would enable decision makers to better determine where to locate potential energy projects with minimal impact on the remaining natural and semi-natural vegetation, and help maintain an interlinked and sustainable network of corridors and large reserves containing all of the major unique and representative vegetation and habitat patterns within the study area.

Specifically the map and associated products should be able to do the following:

- Enable a regional analysis for the purposes of refining the site location of energy projects based on minimal impact to existing patterns of natural vegetation, and habitat and linkage evaluations for selected modeled species (appropriate to model with such vegetation and vegetation structure information as provided in the map layers).
- Enable choices between areas of vegetation/habitat with greater and lesser quality or ranking of vegetation based on size, uniqueness, spatial representation and quality.

The need for such a map is critical based upon how little accurate and useful information exists within currently available, broad-scale, generalized maps which is pertinent to actual "siting" of energy projects. There is an urgent need for at least a good mid-scale vegetation map, produced by photo-interpreters familiar with CA desert vegetation, with individually attributed polygons containing information on alliance or alliance group (new NVC mid-level hierarchy based on ecologically aggregated groups of alliances), basic structure (cover classes, height classes), and stand quality (attributes for degree of "roadedness", invasive exotic cover, and other easily interpreted attributes).

Despite the short time-frame before decisions need to be made (e.g., prior to the end of 2012), streamlined funding could enable the creation of a map covering all the previously non-mapped parts of the desert which focuses on the areas of interest by the energy development community. This map could be fairly easily merged with re-scaled, existing data-driven vegetation maps in the central and eastern Mojave and several of the large state and national parks. Thus, a wall-to-wall map of the area could be put together that would serve as a far better basis for making region-wide decisions than current broad-scale maps.

Existing Vegetation Mapping Efforts in the DRECP Plan Area

- **The Nature Conservancy's (TNC) Mojave Ecoregion Assessment.** TNC's map is one effort that might be considered as a DRECP "starting point" vegetation map. The TNC vegetation map basically uses the 2006 California Landfire vegetation classifications with additional layers added by TNC based on their assessment work. However, the resolution of TNC's "Landfire +" map is too low (5 ha minimum mapping unit) to resolve special vegetation community areas at the alliance level, since many desert vegetation types rarely occur in stands greater than 5 hectares. Alliance level maps are essential to identify the desert vegetation features necessary to assess conservation actions under the DRECP.

Some alliance level desert vegetation mapping has been done, though only for the Central and Eastern Mojave. The western Mojave area west of Barstow has not received any comprehensive vegetation mapping, especially at the alliance level. Since filling all the gaps in the alliance-level vegetation mapping efforts for the entire planning area may not be possible within the DRECP time frame, priority gap areas should be identified for immediate mapping efforts. Of the areas on the REAT Starting Point maps that are identified as DRECP renewable energy study areas, the Western Mojave lands west of Barstow and around Owens Lake represent highest priority DRECP vegetation mapping areas, because they lack alliance-level vegetation mapping data and have been identified as renewable energy study areas.

- **The State Mapping Program.** The State Mapping Program, headed by Dr. Todd Keeler-Wolf (CDFG), has been mapping large areas of the state over the last several years using the National Vegetation Classification System (NVCS), tailored for California (and as reflected in the Manual of California). While the mapping effort to date is not comprehensive, it might be considered as a baseline/starting point for vegetation mapping and/or mapping of unique features for the DRECP. This is not the same mapping as reflected in the CDFG maps presented at the DRECP workshop in April 2010. CDFG's mapping efforts have slowed in the past few years due to budget constraints, therefore additional mapping of desert areas by CDFG (or others using the same methodology) should be high priority for funding.

In addition to vegetation mapping, the various efforts under this program have mapped:

- Playas
- Alkali sinks
- Wash systems
- Active dunes
- Unique (vegetation) stands
- Ironwood (one example of a vegetation association of interest)
- Mud hills
- Rock outcrops
- Non-native grasses, including (in Anza-Borrego): Schismus, red brome, and cheatgrass

The state-based vegetation mapping efforts are detailed and based on statistical analyses of field sampling data to produce a floristically-based vegetation classification scheme. This is followed by aerial photo interpretation to produce a vegetation map, and some level of accuracy assessment. Because the classification follows the NVCS, categories can be aggregated into a higher (broader) level of classification, as needed. Use of a NVC-based system may allow for a more seamless transition across state boundaries if adjacent states use classifications that also follow the NVCS, regardless of level of detail. In addition, the data collection for the state program is structured to obtain some suitability information (per CWHR protocols) for vertebrate species.

Detailed Information Concerning State Mapping Efforts

- **Mojave Desert Ecosystem Program:** Central Mojave Vegetation Database (Kathryn Thomas, USGS, Todd Keeler-Wolf, CDFG; Janet Franklin, SDSU; and Peter Stine; USFS; 2004).

The database for this project includes (among other things):

- Vegetation map of the Central Mojave Desert (eastern Mojave Desert in California)
- Central Mojave Environmental Type Grid: Environmental classes defined to stratify the study area to allocate the vegetation relevé samples,
- Mojave Summer Precipitation Grid,
- Mojave Winter Precipitation Grid,
- Mojave January Average Minimum Temperature Grid,
- Mojave July Average Maximum Temperature Grid,
- Central Mojave Special Features Map: Potential and known locations of special vegetation features, with less than 5 ha extent
- Other attributes of this mapping effort (taken directly from the report):
- Covers approximately 60% (5 million hectares) of the Mojave Desert in California
- Mapped areas represent a majority of public lands in the study area, with an emphasis on certain DOD and Department of Interior lands
- Includes primarily polygon data although certain rare or localized types are mapped as points
- Most vegetation types are represented at the alliance level
- Datum: Horizontal World Geodetic Systems of 1984 (WGS84), which is equivalent to North American Datum of 1983 (NAD83), Universal Transverse Mercator (UTM) projection
- Vertical - National Geodetic Vertical Datum of 1929
- Accuracy: 80% thematic accuracy or confidence level

The ["Central Mojave Special Features"](#) map layer associated with this Mojave Desert Ecosystem Program is described as mapping

"point locations for known or potential places where vegetation alliances or unique stands with less than 5 hectares (ha) of spatial extent occur. Many vegetation types in the Mojave Desert rarely, if ever, occur in stands greater than 5 ha in area. The target standard for the Central Mojave Vegetation Map is a 5 ha minimum mapping unit (MMU), and the methods used to label the map preclude mapping these special features. However, it is important to note the known or potential location of vegetation alliances for future mapping at finer spatial resolution."

Purpose: The Central Mojave Special Features Map (spec_feat.e00) serves as a template for more comprehensive development of a database describing rare or localized vegetation types, habitats, or plant species."

As this quote from the Special Features GIS layer metadata file explains, Thomas et al. created this map layer to serve as a sampling of the type of higher resolution vegetation map currently sought today: one that could best inform a comprehensive desert conservation planning process. This layer could serve as a model for how to map the priority gap areas during a DRECP vegetation mapping effort, where this phase would include collecting, analyzing, calibrating, and mapping existing data sets and developing new datasets from fresh field efforts.

Links:

Map (BIOS): <http://imaps.dfg.ca.gov/viewers/biospublic/app.asp?zoomtoBookmark=815>

Report: <https://nrmsecure.dfg.ca.gov/FileHandler.ashx?DocumentID=13890>

GIS dataset: <http://www.mojavedata.gov/datasets.php?&qclass=veg>

- **Vegetation Mapping of Anza-Borrego Desert State Park and Environs.** Prepared by Natural Heritage Division California Department of Fish and Game, 1998.

Although this mapping effort may need to be updated, it would provide good baseline data for areas that have not changed significantly since the initial data collection efforts. The study area for this mapping includes ABDSP, but also extends beyond the park boundaries to include much of the jointly managed public lands southwest of the park and portions of BLM land east of the Park.

Within the study area, 501 vegetation samples were taken and over 23,000 polygons were delineated and attributed. A total of 94 mapping units were used to depict the vegetation.

Links:

Map (BIOS): <http://imaps.dfg.ca.gov/viewers/biospublic/app.asp?zoomtoBookmark=814>

Report: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18246>

- **Other Relevant Mapping Efforts.** Other existing vegetation map efforts are listed below that could help fill in gaps in the priority western areas of the plan boundaries; however, new field efforts will also be necessary to generate anything approaching a complete picture of the vegetation in the remaining other areas of the planning area.

- Vegetation Mapping of Western Riverside County, California. Report on Alliances prepared by California Native Plant Society, 2006; vegetation map prepared by AIS.

The effort may include a small portion of the desert. The report describes methodology, results, and final classification system (based on NVCS) for study area. It does not include a vegetation map (contracted separately). As with other mapping efforts under this program, field survey data were analyzed statistically to come up with a floristically-based classification. Vegetation mapping was done by interpretation of ortho-rectified, aerial photographs for vegetation signatures in color infrared (CIR) and in natural color (imagery flown in winter or summer). A detailed map was produced through the following process: 1) hand-delineation of polygons on base CIR imagery, 2) digitization of polygons, and 3) attribution of the vegetation types and overstory cover values. The map was created (apparently by AIS, Aerial Interpretation Systems), in a Geographic Information System (GIS) digital format, as was the database of field surveys, but copies have not yet been located.

Report: <http://www.cnps.org/cnps/vegetation>

- "Specialty Reserve Areas" were mapped during the Western Mojave Plan (WEMO) development. These maps appeared in Appendix J of an Administrative Review draft of the WEMO, but did not survive the internal review stage. There are areas identified as Specialty Reserve Areas (for flora and fauna) that would be useful for the DRECP process. It is unclear whether this information was digitized. TNC and DFG are the two GIS points of contact making this information accessible to the REAT for inclusion in the DRECP.
- Edwards AFB and Ft. Irwin vegetation maps. These maps have been compiled by Dave Charlton. These may be very useful to help extrapolate vegetation information outward from those bases if the DRECP can obtain access to the data from DOD. Currently, Julie Evens, CNPS Vegetation Program Director, and Todd Keeler-Wolf, CDFG Senior Vegetation Ecologist, have descriptions of the vegetation maps but not the data sets themselves nor GIS layers.
- Owens Lake area vegetation maps. These maps have been created by Mark Bagley for LADPW. If this agency allows access to the vegetation map data for the DRECP, this information would be very useful for those "brown areas" around Owens Lake on the REAT Starting Point maps.
- Saline wetlands and meadows in the Owens Valley. These areas have been mapped by Sally Manning of the Inyo County Water Department. This info could supplement a DRECP vegetation map effort.
- Springs and seeps in the Mojave Desert. These features have been mapped by Andy Sanders at the U.C. Riverside (UCR) herbarium, and it would be worthwhile to investigate what data and map layers he might have that could improve the DRECP vegetation map.

The Central Mojave Desert Report references two other currently ongoing mapping projects: the USGS/NPS Park Mapping Program in Joshua Tree National Park and the Southwest Regional Gap Analysis Program. These efforts will potentially provide suitable mapping for the southern Mojave and portions of the eastern Mojave (those portions in Arizona, Nevada, and Utah). Additional areas in the eastern Mojave that are not covered by any of these mapping projects are Ward Valley and portions of the Colorado River Corridor.

- Joshua Tree National Park. This vegetation characterization program is a cooperative effort by USGS and NPS to classify, describe, and map vegetation communities in Joshua Tree National Park. The effort follows the NVCS. Mapping standards include a minimum mapping unit of 0.5 hectares and classification accuracy of 80% for each map class. Final products will include a vegetation classification and vegetation maps. The field work is apparently complete but data needs to be processed and a map produced.
- Southwest Regional Gap Analysis Program: This program does not include California, but does include bordering states, and provides a seamless land cover between states. Land cover modeling was done using a decision tree classifier based on 93,000 field samples. While the scale of this mapping is coarser than the current California StateMapping project

efforts, it does follow the NVC hierarchy, so different efforts can be cross-reference or cross-walked.

- Death Valley National Park. This mapping project is being conducted in the same manner (and under the same program) as described above for Joshua Tree National Park. This effort is in-progress but not yet complete.
- Death Valley National Park Travertine Springs Complex Vegetation: Vegetation polygons and point data are available for mapped features, and the mapping was conducted using the NVCS classification.

Reference: Thomas, K.A. 2006. Death Valley National Park Travertine Springs Complex Vegetation. US Geological Survey Southwest Biological Science Center. Technical Report.

Appendix G

Background Documents and Maps Concerning Conservation Planning in California Deserts

Agency Management Plans

- Bureau of Land Management
 - Imperial Sand Dunes Recreation Area Management Plan (2010)
<http://www.blm.gov/ca/st/en/fo/elcentro/recreation/ohvs/isdra/dunesinfo/docs/isdramp.html>
 - Amargosa River Area of Critical Environmental Concern Implementation Plan (2007)
http://www.blm.gov/ca/pdfs/barstow_pdfs/amargosa_ea/Index.pdf
 - California Desert Protection Act (1994).
http://www.dmg.gov/documents/NOT_CA_Desert_Protection_Act_of_1994_103194.pdf
 - California Desert Conservation Area Plan (1980 as amended)
http://www.dmg.gov/documents/PLN_CA_Desert_Cons_Area_BLM_101299.pdf
 - Proposed Northern and Eastern Mojave Desert Management Plan (NEMO), Amendment to the California Desert Conservation Area Plan, Final Environmental Impact Statement, and Record of Decision. <http://www.blm.gov/ca/news/pdfs/nemo2002/>
 - Proposed Northern and Eastern Colorado Desert Coordinated Management Plan and Final Environmental Impact Statement. <http://www.blm.gov/ca/st/en/fo/cdd/neco.html>
- National Park Service
 - Death Valley National Park, General Management Plan (2002)
http://www.nps.gov/deva/parkmgmt/upload/GMP_001.pdf
 - Joshua Tree National Park
 - Joshua Tree Centennial Strategy (2007)
http://www.nps.gov/jotr/parkmgmt/upload/JOTR_Centennial_Strategy.pdf
 - Fire Management Plan (2005)
<http://www.nps.gov/jotr/parkmgmt/upload/fire.pdf>
 - Backcountry & Wilderness Management Plan (2000)
<http://www.nps.gov/jotr/parkmgmt/bcmp.htm>
 - General Management Plan (1995?)
<http://www.nps.gov/jotr/parkmgmt/gmp.htm>
 - Mojave National Preserve, General Management Plan 2002
<http://www.nps.gov/moja/parkmgmt/gmp.htm>

- State Parks
 - Anza-Borrego Desert State Park General Plan and Environmental Impact Report (2005)
http://www.parks.ca.gov/default.asp?page_id=21314
 - Ocotillo Wells State Vehicular Recreation Area General Plan (1982)
<http://www.parks.ca.gov/pages/21299/files/439.pdf>
 - Red Rock Canyon State Park General Plan (1981; revision in progress)
<http://www.parks.ca.gov/pages/21299/files/577.pdf>
- Multi-agency
 - Mojave Desert Ecosystem Program (MDEP) (central data warehouse)
<http://www.mojavedata.gov/>

Conservation Planning Documents

- A Framework for Effective Conservation Management of the Sonoran Desert in California (2009)
<http://consbio.org/what-we-do/a-framework-for-effective-conservation-management-of-the-sonoran-desert-in-california>
- An Ecological Analysis of Conservation Priorities in the Sonoran Desert Ecoregion (2000)
http://azconservation.org/dl/TNCAZ_Ecoregions_Assessment_Sonoran_Desert.zip
- Desert Bird Conservation Plan (2009)
<http://www.prbo.org/calpif/htmldocs/desert.htm>
- Draft California Desert Conservation Vision (2006)
[Document available]
- California Desert Conservation Vision: Workshop Agenda, Desert Conservation Vision and Goals, and Survey Summary (2006)
[Document available]
- Ecoregion-based Conservation in the Mojave Desert (2001)
http://azconservation.org/dl/TNCAZ_Ecoregions_Assessment_Mojave_Desert.zip
- Sonoran Desert Conservation Plan (Arizona)
<http://www.pima.gov/CMO/SDCP/>
- Sonoran Joint Venture Bird Conservation Plan (2006)
http://www.sonoranjv.org/planning/cons_plan/Ver1_Chapter_Oct2006/SJV_Conservation_Plan_Vers-1-0.pdf

General Plans/Community Plans

- Imperial County General Plan and Community Plans
<http://www.icpds.com/?pid=829> and <http://www.icpds.com/?pid=618>
- Kern County General Plan and Community Plans
<http://www.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf>
- Riverside County General Plan and Community Plans

<http://www.rctlma.org/genplan/content/gp.aspx>

- San Diego County General Plan and Community Plans
<http://www.sdcountry.ca.gov/dplu/gpupdate/draftgp.html>

HCPs/MSCPs

- California Desert Conservation Area Resource Management Plan (CDCA Plan) (1980 reprinted in 1999).
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/cdd/cdcaplan.Par.15259.File.dat/CA_Desert.pdf
- Lower Colorado River Multi-Species Conservation Program (2004).
<http://www.lcrmscp.gov/publications/Volumell.pdf>
- Final Environmental Impact Report and Statement for the West Mojave Plan. A Habitat Conservation Plan and California Desert Conservation Area Plan Amendment (2005).
<http://www.dmg.gov/subdocs.php?item=westmojave>
- Coachella Valley Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan (2007).
<http://www.cvmshcp.org>
- Salton Sea Ecosystem Restoration Program: Draft Programmatic Environmental Impact Report (February 14, 2007) and Final Programmatic EIR (June 26, 2007).
http://www.saltonsea.water.ca.gov/PEIR/final/Cover_Vol_I.pdf

Corridors/Linkages

- South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion (no date) (<http://www.scwildlands.org/reports/SCMLRegionalReport.pdf>)
- South Coast Missing Linkages Project: A Linkage Design for the Joshua Tree – Twentynine Palms Connection (2008) (http://www.scwildlands.org/reports/JT_TP_Connection.pdf)
- South Coast Missing Linkages Project: A Linkage Design for the Peninsular-Borrego Connection (2006) (http://www.scwildlands.org/reports/SCML_PeninsularBorrego.pdf)
- South Coast Missing Linkages Project: A Linkage Design for the San Bernardino-Granite Connection (2005) (http://www.scwildlands.org/reports/SCML_SanBernardino_Granite.pdf)
- South Coast Missing Linkages Project: A Linkage Design for the San Bernardino-Little San Bernardino Connection (2005)
(http://www.scwildlands.org/reports/SCML_SanBernardino_LittleSanBernardino.pdf)
- South Coast Missing Linkages Project: A Linkage Design for the San Bernardino-San Jacinto Connection (2005)
(http://www.scwildlands.org/reports/SCML_SanBernardino_SanJacinto.pdf)

Desert Renewable Energy Conservation Plan

- Renewable Energy in California: Implementing the Governors Renewable Energy Executive Order (Joint Public Workshop 2009)

http://www.energy.ca.gov/33by2020/documents/2009-03-12_meeting/presentations/Department_of%20Fish_and_Game.PDF

- Memorandum of Understanding between the California Department of Fish and Game, The California Energy Commission, The Bureau of Land Management, and the U.S. Fish and Wildlife Service Regarding the Establishment of the California Renewable Energy Action Team (2008)
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.76169.File.dat/Renewable_EnergyMOU-CDFG-CEC-BLM-USFWS-Nov08.pdf

Solar Energy Projects

- Solar Energy Development Programmatic EIS Information Center
<http://solareis.anl.gov/> including:
 - Summary of Public Scoping Comments received during the scoping period for the Solar Energy Development Programmatic Environmental Impact Statement. (2008).
http://solareis.anl.gov/documents/docs/Scoping_Summary_Report_Solar_PEIS_Final.pdf
 - Map – Concentrating Collector Solar Resource on All BLM Administered Land
<http://solareis.anl.gov/documents/maps/sol010.pdf>
 - Map – Tilted Photovoltaic Panel Solar Resource on All BLM Administered Land
<http://solareis.anl.gov/documents/maps/sol015.pdf>
 - Map – Solar Energy Study Areas for In-Depth Study in California
<http://solareis.anl.gov/eis/maps/index.cfm> and
http://solareis.anl.gov/documents/maps/studyareas/Solar_Study_Area_CA_Ltt_7-09.pdf

Species Recovery Plans/Recovery Goals/Implementation Progress

- Desert Pupfish
 - Desert Pupfish Recovery Plan Implementation Progress.
(<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E044>)
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Maps

- Mojave Desert – Last Great Places and Conservation Portfolio Areas (The Nature Conservancy) [Available]
- Colorado Desert Strategic Visioning Project:
 - Colorado Desert Community Buffers [Available]
 - Colorado Desert Natural Resources [Available]
 - Colorado Desert Cultural Areas [Available]
 - Colorado Desert Recreation Areas [Available]

Miscellaneous:

- Mojave Desert Science Symposium <http://www.dmg.gov/mdss/index.php>
- Desert Managers Group <http://www.dmg.gov/index.php>
 - Science Research Projects in the California Deserts
<http://www.dmg.gov/science/projectlist.php?arrange=area>

Peer Draft